TO STUDY THE CLINICAL PROFILE, PROGNOSTIC INDICATORS AND OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS

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I hereby declare that the thesis entitled "**TO STUDY THE CLINICAL PROFILE, PROGNOSTIC INDICATORS AND OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS**" submitted towards partial fulfillment of the requirements for the award of **MD in GENERAL MEDICINE** degree to BFUHS is a compilation of original work carried out by me under the supervision of **Dr. Narender Pal Jain**, Professor, Department of Medicine, **Dr. Simran Kaur**, Assistant Professor, Department of Nephrology and **Dr. Chandan Kakkar**, Associate Professor, Department of Radio-diagnosis. No part of this thesis has formed the basis for the award of any degree previously.

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Dedicated

to

my Family,

friends

&

Teachers

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ABBREVIATIONS

ACE	ANGIOTENSIN CONVERTING ENZYME
AGPN	ACUTE GRAFT PYELONEPHRITIS
AKI	ACUTE KIDNEY INJURY
ALP	ALKALINE PHOSPHATASE
APN	ACUTE PYELONEPHRITIS
ARB	ANGIOTENSIN RECEPTOR BLOCKER
ATP	ADENOSINE TRIPHOSPHATE
B.A	BRONCHIAL ASTHMA
B/L	BILATERAL
BPH	BENIGN PROSTATIC HYPERTRIOPHY
CA-APN	COMMUNITY AQUIRED ACUTE PYELONEPHRITIS
CAD	CORONARY ARTERY DISEASE
CKD	CHRONIC KIDNEY DISEASE
CLD	CHRONIC LIVER DISEASE
CNS	CENTRAL NERVOUS SYSTEM
COPD	CHRONIC OBSTRUCTIVE PULMONARY DISEASE
COX	CYCLO-OXYGENASE
CPN	COMPLICATED PYELONEPHRITIS
CRP	C- REACTIVE PROTIEN
CT	COMPUTED TOMOGRAPHY
CVA	CEREBROVASCULAR ACCIDENT
CVS	CARDIOVASCULAR SYSTEM
CXCL	CHEMIOKINE LIGAND
C/S	CULTURE SENSTIVITY
DBP	DIASTOLIC BLOOD PRESSURE
DJ STENT	URETERAL DOUBLE J STENT
DM	DIABETES MEELITUS
DMC&H	DAYANAND MEDICAL COLLEGE AND HOSPITAL, LUDHIANA
DNI	DELTA NEUTROPHIL INDEX
E.coli	ESCHERICHIA COLI
EPN	EMPHYSEMATOUS PYELONEPHRITIS

ESBL	EXTENDED SPECTRUM BETA LACTAMASE
GGT	GAMMA GLUTAMYL TRANSFERASE
Hb	HEMOGLOBIN
HbA1c	GLYCOSYLATED HEMOGLOBIN
HCA- APN	HEALTH CARE ASSOCOIATED APN
ICU	INTENSIVE CARE UNIT
IL	INTERLEUKIN
INR	INTERNATIONAL NORMALIZED RATIO
IPD	INPATIENT DEPARTMENT
IVDA	INTRAVENOUS DRUG ABUSER
KUB	KIDNEY URETER BLADDER
MCP	MONOCYTE CHEMOATTRACTANT PROTIEN
MODS	MULTIORGAN DYSFUNCTION SYNDROME
MRI	MAGNETIC RESONANCE IMAGING
NEPN	NON EMPHYSEMATOUS PYELONEPHRITIS
NIV	NON-INVASIVE VENTILATION
NRBM	NON-REBREATHER MASK
NSAIDS	NON STEROIDAL ANTI INFLAMATORY DRUGS
PCD	PERCUTANEOUS DRAINAGE
PCN	PERCUTANEOUS NEPHROSTOMY
PCT	PROCALCITONIN
PN	PYELONEPHRITIS
Pro ADM	PROADRENOMEDULLIN
qSOFA	QUICK SEQUENTIAL ORGAN FAILURE ASSESMENT
R	RESISTANT
RBC	RED BLOOD CELLS
RBS	RANDOM BLOOD SUGAR
RCT	RANDOMISED CONTROL TRIAL
RPA	RENAL PAPILLARY ANTIGEN
RRT	RENAL REPLACEMENT THERAPY
S	SENSITIVE
SBP	SYSTOLIC BLOOD PRESSURE

TCP	THROMBOCYTOPENIA
TLC	TOTAL LEUCOCYTE COUNT
TNF	TUMOR NECRIOSIS FACTOR
TREM	TRIGGERING RECEPTOR EXPRESSED ON MYELOID CELLS
UPEC	UROPATHOGENIC E.COLI
USG	ULTRASONOGRAPHY
UTI	URINARY TRACT INFECTION
VUR	VESICOURETHRAL REFLUX

ABSTRACT

INTRODUCTION: Acute pyelonephritis (APN) is a suppurative infection of the kidney, most commonly due to bacterial or fungal infection. The source of infection may be ascending from the lower urinary tract or less commonly hematogenous. Diagnosis of acute pyelonephritis is made on basis of clinical features, laboratory and radiological findings.

AIM OF STUDY: 1) To study the clinical profile, risk factors and prognostic indicators in patients of acute pyelonephritis.

2) To study the treatment modalities and outcome in patients of acute pyelonephritis.

MATERIAL AND METHODS: This prospective observational study was conducted over 15 months on 120 patients of acute pyelonephritis diagnosed on basis of clinical features, laboratory and radiological findings. Management was done according to case scenario with medical treatment and radiological/surgical intervention whenever indicated. Final outcome was considered in terms of survival or mortality. Patients with emphysematous pyelonephritis (EPN) were compared with APN patients without emphysematous changes (NEPN). In our study, there were 21 patients with EPN and 99 patients in NEPN group.

RESULTS: A total of 120 patients who met the inclusion criteria were enrolled in the study. APN was most commonly found in 61-70 years age group. Male preponderance was seen. Fever was the most common presenting complaint and Diabetes mellitus was the most common risk factor associated with APN. Most common organism isolated in blood and urine culture was E.coli. Colistin/Polymyxin B showed 100% sensitivity in urine Culture and 90% sensitivity in blood culture. 56.70% of patients required radiological/surgical intervention. Most common intervention done was DJ stenting. Supplemental oxygen support was required in 42.5% of cases. 22.50% patients required ICU care and 10.83% patient required mechanical ventilation. Mean duration of hospital stay was 15.75±5.77 days. Mortality was seen in 5% patients.

CONCLUSION: In our study, E.coli was the most common organism isolated from urine and blood culture. Diabetes mellitus was most common risk factor associated with acute pyelonephritis. In view of local hospital antibiotics sensitivity profile, most of patients were empirically started on carbapenems. Antibiotics were changed according to culture sensitivity results.

Keywords: Acute pyelonephritis, Emphysematous pyelonephritis, Diabetes mellitus, Clinical profile, Risk factors, Outcome

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INTRODUCTION

Urinary tract infection (UTI) is a general term that refers to an infection, usually bacterial in etiology, anywhere along the urinary tract from the urethral meatus to the perinephric fascia. Structures in this pathway include the urethra, bladder, ureters, renal pelvis, and renal parenchyma. The prostate, epididymis, and perinephric fascia are the associated structures that can get infected and may serve as foci of recurrent UTI. Specific types of urinary tract infection include urethritis (an infection limited to the urethra), cystitis (an infection of the bladder), and pyelonephritis. [1]

The definition of a symptomatic UTI generally requires the presence of urinary tract-specific symptoms in the setting of significant bacteriuria with a quantitative count of $\geq 10^5$ colony-forming units of bacteria per millilitre (CFU/ml) in one urine specimen. [2]

UTI is more common in women as compared to men. UTI is frequent in young sexually active women with reported incidence rates ranging from 0.5 to 0.7 per person year, [3] while in young men aged 18–24, the reported incidence of UTI is 0.01 per person year [4]

Risk factors for UTI could be behavioral, anatomical, or genetic, and will vary depending on both the population being considered and the form of UTI. Transient conditions such as pregnancy may predispose to UTI or increase the risk of serious complications from an infection. In permanent conditions such as neurogenic bladder dysfunction due to spinal cord injury can cause recurrent or chronic UTI. The substantiated risk factors for recurrent uncomplicated UTI include frequent intercourse, vulvovaginal atrophy, change of the local bacterial flora, and history of UTI during premenopause or in childhood. The modifiable risk factors can be controlled by improved practices like better hygiene or the avoidance of catheters. While in the case of nonmodifiable risk factors, the use of prophylactic therapies may be advisable. [5]

Classifications of UTIs [6]

Uncomplicated UTI– Uncomplicated UTI are the ones where there are no relevant functional or anatomical abnormalities in the urinary tract, no relevant kidney function impairment, and no relevant concomitant diseases promoting the UTI or risk of developing serious complications

Acute uncomplicated cystitis - A lower UTI in which the acute symptoms involve only the lower urinary tract, for example, urgency, painful voiding (dysuria), pollakiuria, and pain above the symphysis

Acute uncomplicated pyelonephritis - An upper UTI with persistent symptoms including flank pain, flank tenderness, or fever (>38°C)

Asymptomatic bacteriuria - A positive urine culture (>10^5 colony forming units/ml) in the absence of urinary symptoms

Recurrent uncomplicated UTIs- A recurrent UTI refers to the occurrence of ≥2 symptomatic episodes within 6 months or ≥3 symptomatic episodes within 12 months

The most common organism causing both community acquired and hospital acquired UTI was Escherichia coli (E.coli). Other organisms causing UTI could be Gram-negative bacteria such as Klebsiella, Enterobacter, Proteus and gram-positive bacteria like Enterococcus species, and Staphylococcus saprophyticus. [7]

Pathogenic bacteria ascend from the perineum and rectum, predisposing women to urinary tract infections. Women also have shorter urethras than men, which further contributes to their increased susceptibility to UTI. Blood-borne bacteria cause very few uncomplicated UTI. E.coli is the most common organism in uncomplicated UTI by a large margin, followed by Klebsiella. [8, 9]

Studies from various parts of India have shown the occurrence of high rates of antimicrobial resistance among E.coli. The resistance rates of uropathogenic E. coli to various antibiotics have been reported as beta-lactams (57.4%), co-trimoxazole (48.5%), quinolones (74.5%), gentamicin (58.2%), amikacin (33.4%), cefuroxime (56%), nalidixic acid (77.7%). [10]

The antimicrobial treatment of both uncomplicated and complicated UTIs is aimed at (i) Rapid and effective response to therapy and prevention of recurrence. (ii) Prevention of the emergence of resistance to antimicrobial chemotherapy in the microbial environment. The main drawback of current antibiotic therapies is the emergence and rapid increase of antibiotic resistance. Several strategies can be used to prevent the emergence of resistance which include decreasing the number of antibiotics administered, optimal dosing, prevention of infection and development of new antibiotic substances. [11]

The term pyelonephritis (PN) is derived from the Greek words 'pyelos' meaning pus, 'nephros' meaning kidney and 'itis' meaning inflammation. PN is a severe inflammatory disease affecting the renal parenchyma, calyces and pelvis. It occurs in two forms, acute and chronic. It may be found with or without the obstruction of the urinary tract (obstructive and nonobstructive pyelonephritis). Most admissions with urinary tract infections (UTI) have the pathophysiological possibility of developing pyelonephritis if treatment is delayed or inadequate. [12]

Acute pyelonephritis (APN)

Acute pyelonephritis is defined as bacterial or fungal infection of the renal parenchyma and collecting system. The diagnosis of APN is based on the combination of clinical, laboratory and radiological findings. Clinical features may include increased urinary frequency, dysuria, flank pain and fever (>38.5°C) with rigors. Laboratory findings include pyuria, white cell casts, and a positive urine culture. The source of infection may be ascending from the lower urinary tract or less commonly hematogenous. [13]

Most cases of acute pyelonephritis occur by the ascending route from the bladder and were caused by gram negative bacteria. E.coli was isolated in 85 to 90% of women who present with acute uncomplicated pyelonephritis. [14]

Obstruction plays a key role in the development of APN by negating the flushing effect of urine, allowing stasis of urine, and providing bacteria a medium to multiply. Obstruction may be extrinsic or intrinsic.

The causes of extrinsic obstruction include chronic constipation (particularly in children), prostatic mass or swelling (e.g. hypertrophy, infection, malignancy) and retroperitoneal mass. Bladder outlet obstruction, cystocele, fungal ball, papillary necrosis, stricture and urinary stones can cause intrinsic obstruction. [15]

Blood borne infection is usually observed in intravenous drug abusers, immunocompromised patients or patients with a source of infection outside the kidney such as heart valves or infected teeth/gums.

The clinical spectrum ranges from mild illness to pyonephrosis and emphysematous pyelonephritis (EPN) with a fulminant course. Further, APN may be subdivided into uncomplicated and complicated ones. Complicated PN involves an abnormal urinary tract, obstruction, renal stones, diabetes, an immune compromised state and pregnancy.

In clinical practice, acute pyelonephritis may present as a renal or perirenal abscess, emphysematous pyelonephritis or papillary necrosis.

Pathogenesis – UTI is the most important factor in the pathogenesis of PN. Ascending way of infection is due to the adhesion of uropathogenic bacteria to the mucous layer of urinary organs facilitated by a specific adaptation called fimbria. After adhesion, bacteria move to the upper part of the urinary tract. [16, 17]

This adhesion leads to production of inflammatory cytokines and the transition of phagocytes to sub epithelial tissues. This transition leads to the beginning of apoptosis. Since the cells do not have a protective ability, the pathogenic bacteria get penetrated into the deeper layer of epithelium. [18, 19]

Gram-negative pathogens contain capsular O-antigens, K-antigens, as well as p-fimbria, which is associated with pyelonephritis. Bacteria are shielded from opsonisation and phagocytosis by K-antigens. O-antigens are endotoxic. As result, O-antigen damages the innervation of the ureter, thus urostasis occurs. Bacteria with P-fimbriae in the surface layers have a high adhesion capacity, which protects the bacterium from phagocytosis. Fimbria in bacteria and adhesin proteins associated with them causes adhesion to the surface cells of the

epithelium of the mucous membrane of the urinary organs.[19] In the absence of fimbria, adhesion becomes very weak. Adhesion is facilitated due to the hydrophobicity of the surface part of the mucous membrane, carbohydrate polymer in bacteria, polysaccharides, polymers, and high molecular weight. [20] The severity of urinary tract infection is regulated by the activity of the endotoxins and exotoxins of E.coli which are lipopolysaccharides (O-antigen) of the cell layer, cytotoxic necrotic factor (only uropathogenic strains are found), alpha-hemolysin, and P-fimbrial necrotic factor. [21, 22]

E. coli rises up the urinary tract, primarily into the mucous membrane, and then into the muscle layer which leads to impairment of the urinary ability and expansion of internal space. Thus, pyelovenous reflux occurs because of an increase in pressure and compression of the parenchyma leading to the penetration of bacteria into the parenchyma resulting in pyelonephritis. [23, 24]

There is a role of bacterial translocation in the pathogenesis of pyelonephritis. Bacterial translocation is more in the small intestine as compared to the large intestine although the intensity is the same in all parts of the intestine. [25, 26]

In studies carried out in 70% of patients with acute pyelonephritis, which occurs in conditions of primary dysbiosis, the translocation of pathogenic microflora from the intestine to the kidneys was the cause of the development of an acute purulent process in the kidneys. [26, 27]

The standard management for APN in past decades consisted of hospitalization of all patients for initial intravenous antimicrobial therapy and prolonged (up to 6 weeks) courses of antibiotic treatment. Currently, many patients are managed exclusively in the outpatient setting with oral antibiotic therapy, and treatment courses as short as 7 days may be used for selected patients with APN. [28]

The common independent predictors of mortality for both genders included; age greater than 65 years, bedridden status, and the presence of septic shock at presentation. The additional predictors for mortality include the recent use of antibiotics and immunosuppression. [29]

The severity of PN cannot be predicted with clinical or laboratory parameters alone. Radiological investigations such as USG and CT are necessary to know the nature, extent and severity of disease and to plan intervention if required. USG and CT KUB will help in detecting calculi, emphysematous changes, obstruction or other inflammatory changes related to APN

The ACR appropriateness criteria help in selecting the patient for radiological imaging. No radiological workup is needed if patients with uncomplicated pyelonephritis respond to antibiotics therapy within 72 hours. CT of the abdomen and pelvis is the study of choice if there is no response to therapy within 72 hours. Diabetics or other immunocompromised patients must be considered for evaluation with pre-contrast and post-contrast CT within 24 h of diagnosis if the response to therapy is not adequate. In patients with contraindications to radiation or contrast; USG is a good option. Early evaluation with CT should be considered in complicated adult patients (e.g., patients with a history of stones or other urologic conditions, prior urologic surgery, and repeated episodes of pyelonephritis). MRI can be considered in patients where contrast study is contraindicated. [30]

EMPHYSEMATOUS PYELONEPHRITIS (EPN)

Emphysematous pyelonephritis constitutes an acute severe necrotizing infection that results in the presence of gas in the renal parenchyma, collecting system or perinephric tissue. First reported in 1898 by Kelly and MacCallum and in their study, the prevalence in Western countries remains low (1-2 cases per annum).[31] The term EPN was first published by Schultz and Klorfein in 1962. It is applied when gas forms in or around the kidney. They also noted that emphysematous pyelonephritis was more frequent in the left kidney. [32]

EPN is almost exclusive to patients with diabetes mellitus (DM). Occasionally, non-diabetics with obstruction of the corresponding renoureteral unit may present with EPN. [33]

Production of carbon dioxide due to the fermentation of glucose by the invading pathogen had been proposed as the source of emphysema. [34]

Two important features found commonly in EPN were severe necrotizing infection and impaired vascular supply manifested by intrarenal thrombi and renal infarctions. These findings support the theory of Schainuck and associates emphasizing the importance of impaired tissue and vascular response, which enables organisms capable of producing carbon dioxide to use necrotic tissue as a substrate for gas generation. Fermentation products from tissue necrosis produced carbon dioxide. Analysis of gas shows four components- nitrogen (60%), hydrogen (15%), oxygen (8%) and carbon dioxide (5%). [35]

Mechanism of Gas Formation The actual mechanism of gas formation is still controversial. The growth of organisms requires a constant supply of metabolic energy. The bacteria obtain their energy through the fermentation of glucose. This proceeds via the glycolytic (Embden-Meyerhof) pathway, by which two molecules of adenosine triphosphate (ATP) were produced, nicotinamide adenine dinucleotide (NAD) was converted to nicotinamide adenine nucleotide dehydrogenase (NADH), and pyruvate was generated in the process as the end product. [36] A variety of pathways had evolved in the microorganism for the reoxidation of NADH by pyruvate or its derivative. These pathways include lactic fermentation (streptococcus, lactobacillus), alcoholic fermentation (many yeasts, a few bacteria), mixed acid (formic acid) fermentation (most Enterobacteriaceae), butyric fermentation (Clostridium), butanediol fermentation (Enterobacter) and propionic fermentation (Propionibacterium). These reactions lead to the accumulation of acids and when the pH reaches 6 or below, a gas-forming microorganism like E.coli will form an enzyme, formic hydrogenylase, which converts formic acid into carbon dioxide and hydrogen. The production of hydrogen was the hallmark of mixed acid fermentation because none of the other five pathways listed would give rise to hydrogen gas as the end product. The gas generated contains reasonable amounts of nitrogen, as well as oxygen, carbon dioxide and hydrogen, trace amounts of ammonia and methane arising

from the fermentation of mixed amino acids that were produced by the degradation of the necrotic tissue. [37]

Local factors like obstruction and diabetic glomerulopathy and systemic factors like diabetes mellitus or other comorbidities; contribute to tissue and vascular damage. Impaired host response was an important factor in the development of EPN which give a feasible explanation for the presence of EPN in patients without diabetes or, possibly, even in those without evidence of infection. In patients with diabetes mellitus and EPN, both mechanisms (sugar fermentation and defective host response) may coexist and explain the origin of gas production. [34]

Gas forming bacteria using glucose as a substrate cause necrotizing lesions in infected tissue, especially in diabetic patients or those with obstructive urinary tract infections. EPN can be complicated by acute sepsis, resulting in a poor prognosis. Thus the disease presents a urologic emergency. [38]

RADIOLOGICAL CLASSIFICATION OF EPN

Wan et al Classification [33]

Type I - Renal necrosis with either total absence of fluid content on CT or the presence of a streaky/mottled gas pattern demonstrated on radiograph or CT with lung window display.

Type II - Characterized either by the presence of renal/perirenal fluid in association with a bubbly/loculated gas pattern or by the presence of gas in the collecting system.

Type I emphysematous pyelonephritis is associated with more extensive parenchymal necrosis and a more fulminating clinical course than type II

Huang et al Classification [39]

Class 1 - Gas in the collecting system only (Emphysematous pyelitis)
Class 2 - Gas in the renal parenchyma without extension into the extrarenal space

Class 3A - Extension of gas or abscess to the perinephric space Class
Class 3B - Extension of gas or abscess to the pararenal space

Class 4 - Bilateral EPN/Solitary kidney with EPN

Michaeli et al Classification [34]

Stage I - Gas within the renal parenchyma or in the perinephric tissues.

Stage II - Presence of gas in the kidney and its surroundings.

Stage III - Extension of gas through Gerota's fascia or presence of bilateral EPN.

Mitra et al [40] classified renal emphysema into two distinct entities and claimed that this classification had important prognostic and therapeutic implications.

1) Emphysematous pyelitis: A milder form with gas limited to the renal pelvicalyceal system. It is commonly associated with obstructive uropathy. [41] It responds well to the conservative mode of therapy with or without a drainage procedure.

2) Emphysematous pyelonephritis: Gas extends further into the renal parenchyma, perinephric tissues and to retroperitoneum. It is a serious clinical condition with high mortality and morbidity. In addition to medical treatment more aggressive surgical management like nephrectomy has been recommended to improve survival.

Previously there was the belief that medical treatment was ineffective and prompt surgical drainage was recommended and nephrectomy was often necessary. The mortality rate in patients who were treated only with antibiotics was 40%. Treatment was successful in 66% of patients who were treated with percutaneous nephrostomy and antibiotics, and in 90% of those with nephrectomy. [42] But now with the use of newer antibiotics, early diagnosis with imaging techniques and early radiological/ minimal surgical interventions leads to very low mortality and better outcomes.

RENAL ABSCESS

Renal abscess occur in 1 to 10 per 10,000 hospital admissions. Patients usually present with fever, chills, back or abdominal pain, and costovertebral angle tenderness, but they may have no urinary symptoms or findings if the abscess does not communicate with the collecting system, as often occurs with a cortical abscess. [43]

Perinephric abscess results from perirenal fat necrosis. A perinephric abscess is usually a complication of urologic infection. Most perirenal abscesses were due to prolonged bacteremia with Staphylococcus aureus followed by hematogenous seeding before the era of antibiotics. [44]

Renal abscess formation is more common with hematogenous infection than with ascending infection. Bacteremia may be primary (cortical abscess) or secondary (corticomedullary or perirenal). 25 to 39% of abscesses were intranephric, 19 to 25% were both intra-nephric and peri-nephric and 42 to 51% were perinephric alone. [45]

Intra-renal abscess or a "Renal carbuncle", is encapsulated necrotic material within the renal parenchyma. The predisposing factors for renal abscesses include diabetes mellitus (DM), renal calculi, ureteral obstruction, and vesico ureteral reflux (VUR). Other less common causes include Intravenous drug abuse (IVDA), chronic debilitating disease and immune compromised status. [46]

Abscesses of the kidney account for 0.2% of all intra abdominal abscesses. Perinephric abscesses are collections of pus between the renal capsule and Gerota’s fascia; they account for 0.02% of all abdominal abscesses. These abscesses had a poorer prognosis and are more difficult to treat than an intrarenal abscess. Renal corticomedullary abscesses may extend deep and even perforate the renal capsule to form a perinephric abscess. [47]

Although E. coli was the most common gram negative organisms implicated in urosepsis, other bacteria involved include Klebsiella, Enterobacter, Pseudomonas aeruginosa, Serratia and Citrobacter. Anaerobes such as Clostridium, Bacteroides and Actinomyces may account for some ‘culture-negative’ abscesses. However, the possibility of Mycobacterium tuberculosis being present and responsible should always be considered. [48]

Renal and perinephric abscesses are rare but very severe conditions resulting from infections in or surrounding the kidneys. Symptoms and imaging techniques, such as computed tomography (CT), magnetic resonance imaging (MRI) and renal ultrasound (US) of higher quality

have led to an early diagnosis that is very important for patient's prognosis. The best clinical approach to manage this disease is still debated. Antibiotic therapy represents the usual treatment of small renal abscesses. This management can be insufficient in case of larger renal abscesses requiring percutaneous or surgical drainage. [49]

PAPILLARY NECROSIS

Renal papillary necrosis was first described as a common condition in human diabetic patients. However, it was later shown that papillary necrosis can also result from other factors, such as analgesic misuse, particularly with non steroidal anti inflammatory medicines. [50]

The progression of renal failure in analgesic-associated nephropathy has been well documented. Analgesic nephropathy is a degenerative condition leading to renal failure following long-term analgesic abuse. The mechanism of papillary necrosis is still controversial. Data support microvascular alterations and local ischemia damage as the fundamental causes. [51] Possible Mechanisms of papillary Necrosis were prostaglandin inhibition, reduction or redistribution of renal blood flow, direct cellular injury, free radical formation and immunologic injury. [52]

One possible mechanism was a direct toxic effect on cells in the medulla. The initial target in analgesic nephropathy may be the medullary interstitial cell. The typical sequence of events after exposure to low doses of analgesics was degeneration of medullary interstitial cells, evidenced by cytoplasmic edema, dilation of organelles, and increased proteoglycan production, followed by damage to the endothelial cells and loops of Henle. Platelet thrombi occur, and tubular lumens fill with cellular debris [53, 54]

A second possible mechanism was an ischemic injury through the direct inhibition of cyclooxygenase-mediated production of prostaglandins. Most NSAIDs are non selective inhibitors of both isoforms of COX genes. Cox I is expressed in high levels in the collecting ducts and renal vasculature, and in a small number of papillary interstitial cells of humans. Cox II is present in the papillary interstitial cells of rats and dogs, but not in humans. Differences in the

susceptibility of humans and laboratory animals to NSAIDs may be related to their differences in expressions of COX genes. [55]

The lobster claw sign was seen in renal papillary necrosis on excretory urography or CT IVP. Necrosis of the papilla causes the fornices of the minor calyx to elongate, creating the impression of a lobster claw. Eventually, the fornices may even communicate around the necrotic papilla creating a signet ring appearance. [56]

Clinical features are typically those of PN. Passage of sloughed papillae into the ureter may cause renal colic, renal impairment or failure or obstruction with severe urosepsis. Papillary necrosis was usually associated with pyuria and a positive urine culture. Causative uropathogens were those typical of complicated UTI. [57]

AIMS AND OBJECTIVES

1) To study the clinical profile, risk factors and prognostic indicators in patients of acute pyelonephritis.
2) To study the treatment modalities and outcome in patients of acute pyelonephritis.

REVIEW OF LITERATURE

A study done by Karthikeyan V.M. et al on 66 patients about the clinical profile and outcome in patients of EPN managed conservatively and with minimally invasive treatment revealed that 84.85% of patients were diabetic. Thrombocytopenia (TCP) was seen in 33% of patients.75.76% of patients were classified as Huang and Tseng class 2. About 10% of patients classified under class 3 with perinephric abscess required open drainage. Bilateral EPN (class 4) was seen in 13.64% of cases. Treatment with Piperacillin/Tazobactam was effective in 65% of patients. Double J stenting was done in 25.76% of patients, percutaneous drainage was done in 7.58% of patients and nephrectomy in 3% of patients. This study suggested that EPN could be managed medically if timely intervention is done resulting in a lower mortality rate. [58]

In a study by Aboumarzouk O.M. et al on 628 patients about the management plan of EPN suggested that females were more commonly affected. Diabetes was seen in 85% of patients. Fever with rigors was seen in 74.7%, pyuria in 78.2% and abdominal pain in 70.4% of patients. About 54.4% of deaths were recorded in patients who initially presented in shock and 15% of deaths were seen in patients presenting with obstructive uropathy. This study revealed that the overall mortality rate was nearly 18% and patients presented with shock were at a higher risk of mortality. [59]

A study conducted by Han C. et al about the role of serum alkaline phosphate (ALP) and serum gamma glutamyl transferase (GGT) in acute pyelonephritis suggested that elevated levels of ALP and GGT were associated with complicated pyelonephritis and renal impairment. In this study, they found that 30.6% of patients had high serum GGT levels and 17.6% of patients had elevated serum ALP levels. [60]

A study done by Yoo J.M. et al on 207 patients of acute pyelonephritis on the sensitivity of radiological diagnostic modalities revealed that the sensitivity of dimercaptosuccinic acid (DMSA) scan was similar to CT

but better than doppler ultrasound (DUS). They suggested that CT is the most practical modality for routine clinical use to diagnose APN. [61]

A study done by Talan D.A. et al on fluoroquinolones resistant and extended spectrum beta lactamase producing E.coli infections in acute pyelonephritis revealed that E.coli resistance rates were more in patients with complicated PN as compared to uncomplicated cases. The Percentage of patients harbouring drug resistance E.coli was 57.25% for Ampicillin, 36.45% for Trimethoprim/Sulfamethoxazole combination, 9.95% for Gentamycin, 14.2% for Cefazolin, 7.7% for Ceftriaxone, 10.2% for Levofloxacin and 12.1% for Ciprofloxacin. [62]

A study conducted by Kolla P.K et al on eight patients of EPN about clinical profile and outcome when managed conservatively revealed that EPN should be suspected in every diabetic patient with urosepsis and early diagnosis and effective conservative treatment precludes the need for nephrectomy and decreases mortality. [63]

In a study by Buonaiuto V.A. et al on 1325 patients of complicated pyelonephritis about clinical, epidemiological features and prognosis suggested that 25.9% of patients developed severe sepsis and 12.5% of patients developed septic shock. In patients with structural or functional abnormalities of the genitourinary tract, 70.9% of episodes of complicated pyelonephritis occurred. E.coli was the causative agent in 67% of patients followed by Klebsiella and Proteus in 7.9% and 6.6% of cases respectively. In their study, the crude mortality rate with complicated pyelonephritis is 6.5% and attributable mortality was 4.1%. [64]

Xu R.Y. et al in their study showed the role of C reactive protein (CRP) and Procalcitonin (PCT) in diagnosis of UTI and revealed that both PCT and CRP could be used to differentiate upper and lower UTI. PCT had a higher specificity and sensitivity in predicting PN than CRP and PCT values can be correlated with the degree of renal involvement in pyelonephritis. [65]

An observational study done by Ruiz Mesa J.D. et al on 1507 patients of acute complicated pyelonephritis about the factors associated with severe sepsis or septic shock revealed that 28.1% of patients had

severe sepsis or septic shock at the time of presentation. In the patients with severe sepsis/septic shock crude and attributable mortality at 30 days was 17.7% and 11.7% as compared to 1.7% and 0.6% in patients without septic shock or severe sepsis respectively. The prevalence of septic shock or severe sepsis was higher in patients with acute complicated pyelonephritis. [66]

A retrospective study done by Elawdy M.M. et al. about treatment strategies of EPN in relation to CT classification revealed that patients with CT classification class 1 and 2 without any obstruction respond very well to medical conservative treatment only. Nephrectomy was required in 33% of cases in class 3A and 100% of cases in class 3B. No case of class 4 was seen in their study. [67]

A study done by Rudrabhatla P. et al to compare 7 days vs 14 days course of Flouroquinolones antibiotics in patients with APN concluded that 7-day treatment with clinical improvement was effective to stop APN progression and there was no need to continue the antibiotic course till day 14. It would significantly decrease antibiotic consumption, hospital stay and treatment related side effects. [68]

A study by Coelho R.F. et al regarding renal and perinephric abscess revealed that perinephric abscess was found in 50.8% of patients followed by a renal abscess in 24.6% and mixed abscess in 24.6%. The most common predisposing conditions were urolithiasis (28%) and DM (28%). Mixed abscess and perinephric abscess were successfully managed by interventional treatment. Renal abscesses could be managed only by medical treatment however intervention was reserved for large renal abscesses or patients with clinical impairment. [69]

A retrospective study done by Venkatesh L. et al to compare the clinical and biochemical parameters with radiological findings among the patients diagnosed with PN revealed that the majority of patients presented with a triad of fever, flank pain and dysuria. Urine culture was positive in only a few cases. Emphysematous changes were not diagnosed with USG although USG was able to diagnose a large number of APN cases. Renal abscess and emphysematous changes

were detected by CT and for diagnosis of PN, CT is better than USG. [13]

A study done by Kim Y. et al. on the Usefulness of Blood Cultures and Radiologic Imaging Studies in the Management of Patients with Community-Acquired Acute Pyelonephritis (CA-APN) suggested that Blood cultures were clinically useful for diagnosis of CA-APN and bacteremia was a predictive factor for hospital mortality. Early radiologic imaging studies should be considered for CA-APN patients with Pitt scores ≥1, flank pain or azotemia. In this study, the detection rate of APN was 84.4% by abdominal computed tomography and 40% by abdominal ultrasonography. Positive urine and blood cultures were obtained in 69.3% and 42.7% respectively. [70]

A study done by Lee A. et al on the Clinical Usefulness of Unenhanced Computed Tomography in Patients with Acute Pyelonephritis showed that unenhanced CT was not inferior to enhanced CT as an initial tool for evaluating APN for screening nephrolithiasis and hydronephrosis without the risk of contrast-induced acute kidney injury but the patients with an atypical clinical course might still need contrast enhanced CT. APN CT findings were similar on stone, perinephric infiltration, swelling and hydronephrosis on both CTs. In their study, 4%of patients developed contrast induced acute kidney injury within 2 days after ECT. [71]

A study done by Uruc F. about their experience in managing the cases of EPN showed that the mean age group was 62 years with female preponderance. E.coli was the most common organism isolated. Mortality rates of EPN are gradually decreasing now a days. Nephrectomy is rarely needed due to early diagnosis, appropriate antibiotic therapy, and percutaneous catheter drainage. In this study along with medical treatment, 2 patients underwent nephrectomy upon the deterioration of patient's condition. [72]

In a study on Relevant Predictive Variables for Bacteremia among Outpatients with Pyelonephritis, Nakamura N. et al. found that older age, positive urine nitrite test findings and chills were linked to

bacteremia. Blood cultures were positive in 22% of patients in this study. [73]

The clinical characteristics of elderly and non-elderly women with community-onset, non-obstructive acute pyelonephritis were compared in a study by Chang U.I. et al. The results showed that elderly women with APN had higher serum CRP levels, more bacteremia, more ESBL-producing uropathogens, and longer hospital stays than non-elderly women, despite the fact that elderly women might not experience typical urinary symptoms. [74]

A retrospective analysis on the results of nephrectomy and kidney-preserving techniques for the treatment of EPN was conducted by Park B.S. et al. Females outnumbered males in their study. All patients received intravenous antibiotics and strict diabetes management. 90% of patients who underwent nephrectomy experienced success, compared to 50% of individuals handled medically and 67% of patients who underwent PCD. This study concluded that immediate nephrectomy, together with diabetes management strategies and antibiotic medication, was essential for the effective management of EPN. Percutaneous drainage might be a good therapy choice in circumstances where surgery was not an option. [75]

A study on the clinical characteristics and prognostic factors performed on 32 EPN patients by Lu Y.C. et al. revealed that the overall survival rate was 87.5%. The most typical bacterium cultivated from urine and blood samples was Escherichia coli. Indications for hemodialysis, hypoalbuminemia, shock as the initial presentation, bacteremia, and polymicrobial infections were prognostic indicators for mortality in EPN patients. The mortality risk was higher in patients who had more than two of these prognostic markers, thus they needed prompt diagnosis and vigorous treatment. [76]

An observational study was done by Bosch Nicolau P. et al on Risk Factors that Influence the Empirical Treatment of Patients with Acute Pyelonephritis on comparison of community acquired acute pyelonephritis (CA-APN) with healthcare associated acute pyelonephritis (HCA-APN), to look for outcomes and identify variables

that could predict antimicrobial susceptibility. 607 patients were included in the study. This study demonstrates the increase in antibiotic resistance in acute pyelonephritis. While selecting an empirical antibiotic medication, risk factors for resistance should be taken into account. The site of acquisition, recurring UTIs, and prior antibiotic usage were independent risk factors for antibiotic resistance. When definitive antimicrobial therapy was not adequate, relapse rates were considerably greater. [77]

Pertel P.E. et al, in his study found four risk variables for poor treatment response for acute pyelonephritis. These included the presence of an organism that was resistant to the antimicrobial agent used for therapy, the need for hospitalization at baseline (the strongest predictor), the history of renal stone formation and diabetes mellitus. These four variables might help a clinician to determine which patients were at risk of treatment failure at the time of initial examination. In this study, the cure rate was 85% for patients with acute uncomplicated pyelonephritis. [78]

According to research by Takai K. et al., renal angioplasty, chronic renal insufficiency, immunosuppressed status, and unilateral renal agenesis were the predisposing variables for urinary tract infections after kidney transplantation. In virtually every instance, repeat urine cultures revealed the culprit bacterium. In 48% of cases, unilateral renal agenesis was typically accompanied by urological abnormalities, such as primary VUR (high-grade) in 28% of patients, vesicoureteric obstruction in 11% of patients, pelviureteric obstruction in 7% of patients, and a combination of the latter two in 2% of patients. These anomalies could lead to urinary stasis, UTI and even renal abscess. According to their study, CT was the best method for identifying APN. [79]

The retrospective study conducted by Yen D.H. et al on 88 patients with renal abscess concerning early detection and treatment of renal abscess revealed that renal calculi and ureteral obstruction were the most frequent predisposing factors followed by diabetes mellitus and renal calculi. After using regular antibiotics together with percutaneous

drainage, the cure rate was 64%. Elderly individuals with an elevated serum blood urea nitrogen level had a poor prognosis. [80]

Small abscesses (less than 3 cm) were treated with antibiotics and resolved in all cases, according to research by Siegel J.F. et al on 52 patients on the Minimally Invasive Treatment of Renal Abscess. Percutaneous abscess drainage was used to treat medium-sized (3 to 5 cm) abscesses, and 92% of them were successfully treated. It was frequently necessary to do further percutaneous drainage procedures or additional open surgical interventions on large abscesses (greater than 5 cm). As a result, percutaneous drainage was just as successful for treating big and medium renal abscesses as open surgery. Small abscesses could be effectively treated with a course of intravenous antibiotic therapy. [81]

The gas forming abscess was identified as a distinct entity within the pyelonephritis spectrum in study by Best C.D. et al on the clinical and radiological findings in patients with gas forming renal abscess treated conservatively. Five individuals who had gas-forming renal abscesses had their radiographic features reviewed. Each patient responded effectively to the intravenous antibiotics and dyselectrolemia management. None of the patients required PCD or surgical intervention. In patients with long-term follow-up, CT showed full clearance of gas in the parenchyma after 6 months. This was in contrast to the treatment of emphysematous pyelonephritis, which often needed surgical or percutaneous drainage. [82]

Hung C.H. et al compared immediate percutaneous drainage versus surgical drainage of the renal abscess in a retrospective analysis. 23 patients with renal abscess were taken. Individuals who had percutaneous drainage for a kidney abscess experienced results similar to those of surgical drainage. There was no significant difference in the mean duration of hospitalization. In both groups, larger abscess size and high C-reactive protein levels were significant prognostic indicators. Escherichia coli and Klebsiella pneumoniae were most commonly seen in pus cultures. [83]

A study was done by Gupta K.L. et al on 29 patients with Papillary necrosis with invasive fungal infections. In this study, 10% of patients were kidney transplant recipients. The remaining were suffering from a variety of co-existing illnesses, including 14% with septicemia and 55% with diabetes mellitus. 59% of cases had bilateral renal involvement. Presentation varies from asymptomatic urinary tract infection to severe kidney failure with poor outcomes. Urinalysis showed pyuria in 79% and microhematuria in 28% of patients. Fungal infections included candidiasis in 69%, aspergillosis in 21% and zygomycosis in 10% of patients. Thus, although rare but the likelihood of fungus infection in papillary necrosis must be considered by clinicians. [84]

A study done by Ulleryd P. et al on a comparison of two weeks vs four weeks of ciprofloxacin therapy in febrile UTI in men suggested that a two week course of ciprofloxacin might be adequate for men with febrile UTI as all the patient responded well with clinical success. There is no need for longer treatment. Prostatic involvement by the infection was present in a majority of patients, suggesting an underlying chronic bacterial prostatitis. Longer treatment courses seem unnecessary as antimicrobials rarely cure chronic bacterial prostatitis. [85]

Urinary tract infection history in female relatives was strongly and consistently related to urinary tract infection recurrence and pyelonephritis, according to study by Scholes D. et al. on family history and risk of recurrent cystitis and pyelonephritis in women. Stronger family history indices increased risk estimations, pointing that a genetic component contributing to the greater vulnerability to these infections. [86]

A research on the levels of pro-inflammatory cytokines such as TNF, MCP, and IL-23, in the blood serum of patients with APN and CPN was done by Gaiseniuk F.Z. et al. The study revealed a consistent rise in all analysed findings across both types of PN. There was no difference in the levels of TNF-b or IL-23 between APN and CPN, although MCP-1 levels in APN are consistently greater than in CPN. All three cytokines were present at greater levels in adults than in children. More expressed immune response was noted in the adults. [87]

According to research by Kapoor R. et al., patients with emphysematous pyelonephritis who had altered mental status, thrombocytopenia, renal failure, and severe hyponatremia at presentation had greater death rates, whereas those who had extensive renal parenchymal damage required nephrectomy. Initial cautious therapy was related to lower fatality rates than early nephrectomy. [88]

According to study done by Eswarappa M. et al. on EPN suggested that mortality rate in EPN was as high as 25%. Most common symptom was abdominal pain in 94.1% of patients followed by fever in 83.2%. Early diagnosis and broad spectrum antibiotics, together with an appropriately timed intervention, resulted in decreased mortality. E.coli was most common organism isolated.[89]

Anaerobic bacteria, namely B. fragilis, had been identified by Liao H.W. et al. as the cause of EPN. With the exception of one instance involving Clostridium, anaerobic bacteria had never been identified as a causal pathogen in previous studies. They believed that most likely source was the growth and invasion of anaerobes native to the lower urethra or a spread from nearby organs like the uterus or bowel. Obstruction might lower oxygen tension, weaken tissue immunity, and increase the risk of EPN. Thus, they advised that empirical therapy for obstruction-related EPN should include anaerobes. [90]

According to research by Zissin R. et al, extrarenal symptoms of acute pyelonephritis included thickened gallbladder walls, mural thickening, ascites, and periportal tracking. Thoracic manifestations included pleural effusion and thickened interlobular septa. [91]

A study done by Abe K. et al, on patients of diabetes mellitus with papillary necrosis on the role of prostaglandin E1 in renal papillary necrosis showed that intravenous infusion of prostaglandin E1 40 mg/day for 14 days was associated with improved creatinine clearance and renal plasma flow. Proteinuria was also decreased. Thus, the administration of prostaglandin E1 produced an improvement in renal hemodynamics and could be considered a possible therapy for renal papillary necrosis in diabetic patients. [92]

A study was done by Price SA et al on the role of RPA-1 (Renal papillary antigen) in the diagnosis of papillary necrosis. They observed that papillary necrosis was difficult to diagnose without expensive scanning methods or histopathology. In this study, the authors showed that RPA-1 was an early biomarker of RPN in two different rat models. RPA-1 could be detected in urine at early stages of toxicity and correlates well with the histopathology observed. They also characterized the biochemical properties of RPA-1. This study demonstrated that RPA-1 was an excellent marker of RPN that could be used to detect this toxicity in preclinical safety testing. [93]

A study done by Tsaganos T. et al on Novel immunotherapeutic strategies for pyelonephritis recommended that there was a need for in depth understanding of the peculiarities of the pathogenesis of APN to find the newer modalities. Immunotherapies with vaccines targeting specific virulence factors of UPEC were still under research. From all strategies studied in RCTs, only supplementation with low-dose hydrocortisone and intravenous clarithromycin provided the most promising results. Low dose hydrocortisone should be given only in septic shock. Clarithromycin provided survival benefits in the most severely ill patients with septic shock and MODS and it was cost-effective. Ulinastatin seems to be a promising anti inflammatory molecule. [94]

A study done by Desai R. et al suggested that shock, thrombocytopenia, confusion, hyponatremia and emergency nephrectomy were risk factors for mortality. Initially, Conservative and minimally invasive treatment should be tried for emphysematous pyelonephritis as they carry lesser mortality risks. The presence of risk factors might help predict the subset of patients who need aggressive treatment and minimally invasive treatment modalities or early nephrectomy. [95]

A study done by Cetin N. et al about Proadrenomedullin (proADM) and Triggering Receptor Expressed on Myeloid Cells-1 (TREM-1) as Biomarkers for the Diagnosis of Acute Pyelonephritis showed that Serum proADM and TREM-1 levels were higher in patients with acute pyelonephritis than those of lower urinary tract infection. Both serum proADM and TREM-1 levels had predictive value for the diagnosis of acute pyelonephritis in children. [96]

A study conducted by Shin D.H. et al on delta neutrophil index (DNI) as a marker for differential diagnosis between acute graft pyelonephritis (AGPN) and acute graft rejection showed that AGPN group had significantly higher DNI values than the acute graft rejection group. Thus, DNI was an effective marker to differentiate between AGPN and acute graft rejection. [97]

According to study by Gotsch F. et al, the median serum concentration of CXCL10/IP-10 in pregnant patients with pyelonephritis was significantly higher than in normal pregnant women but maternal median serum concentrations of CXCL10/IP-10 did not differ significantly among patients with acute pyelonephritis with and without bacteremia. [98]

A study was done by Pandey S. et al on Quick Sequential (Sepsis Related) Organ Failure Assessment as a rapid prognostication tool in patients having acute pyelonephritis with upper urinary tract calculi. In this study, 162 patients were included. They evaluated the accuracy of qSOFA in predicting in hospital mortality and intensive care unit (ICU) admissions and compared this with the predictive accuracy of systemic inflammatory response syndrome (SIRS). They concluded that qSOFA was a reliable and rapid bedside tool in patients with sepsis with accuracy more than SIRS in predicting in hospital mortality and ICU admissions. [99]

Godaly G. et al in their study on innate immunity and genetic determinants of urinary tract infection susceptibility showed that susceptibility to UTI is controlled by specific innate immune signaling and by promoter polymorphisms and transcription factors that modulate the expression of genes controlling these pathways. Gene deletions that disturb innate immune activation either favor asymptomatic bacteriuria or create acute morbidity and disease. Genetic evaluation could be tried in UTI-prone patients to improve diagnosis and to assess the risk for chronic sequels. [100]

The EPN is commonly associated with diabetes seen in 96% (Huang et al [36]), and 87% (Michaeli et al [34]) of patients. The side of involvement was predominantly left in study by Shokeir et al [101] and Bum Soo Park et al [38] seen in 60% and 47% of cases. Bilateral presentation ranged from 5% to 20%. [102]

MATERIALS AND METHODS

SOURCE OF DATA

This study was conducted over 15 months from 1st March 2021 to 31st May 2022 including follow-up in patients of acute pyelonephritis admitted to DMC&H Ludhiana.

METHOD OF COLLECTION OF DATA

Inclusion Criterion:

- Age >18 years
- Patients with one or more clinical features of acute pyelonephritis i.e. Fever, Chills, Flank pain, Nausea and/or vomiting, Suprapubic or Costovertebral angle tenderness, Dysuria and Frequent or painful micturition.
- Radiological findings are suggestive of acute pyelonephritis.

Exclusion Criterion:

- Patients <18 years
- Pregnant patients
- Patients who are not willing to participate

METHODOLOGY

A total of 120 patients fulfilling the above criteria were included in the study. The baseline characteristics of all patients was recorded including their age, gender, chief complaints, duration of symptoms, any past medical or surgical history, comorbidities, vitals on presentation, hemodynamic status, degree of consciousness and need of Oxygen or ventilator support. The diagnosis of acute pyelonephritis was made on the basis of clinical features, laboratory and radiological findings. The laboratory investigations included renal function test (RFT), random blood sugar (RBS), glycosylated hemoglobin (HBA1C), total leucocyte count (TLC), hemoglobin, platelet count, C-reactive protein (CRP), procalcitonin (PCT), liver function test (LFT), urine routine examination, urine culture and blood culture. Leukocytosis was defined as TLC count >12000/microliters. Thrombocytopenia (TCP) was defined as platelet counts <1.5 lakh/ml. Renal dysfunction was defined as serum creatinine >1.5 mg/dl on presentation. Urine culture

was said to be positive if >10^5 CFU/ml of bacteria found. Glycemic control is defined as good if HbA1c levels <7.5, moderate if HbA1c levels 7 – 7.5, poor if HbA1c levels were >7.5.

Radiological investigations included ultrasonography (USG) whole abdomen and computed tomography of kidney and urinary bladder (CT KUB).

The patients of emphysematous pyelonephritis were stratified radiologically based on Wan classification and Huang and Tseng classification. Cases were followed up till one month or discharge whichever is later. Management of pyelonephritis was done according to case scenario with medical treatment and radiological/surgical intervention whenever indicated. Final outcome was considered in terms of survival or mortality and secondary outcome included need for supplemental oxygen support, ICU requirement, mechanical ventilation, type of antibiotics required, need for change of antibiotics, need of vasopressor support, radiological/surgical intervention and type of intervention, need for hemodialysis and duration of hospital stay. MODS was defined in the form of hepatic, renal and respiratory failure.

Duration of Study/ Number of Cases: 15 months from 1st March 2021 to 31st May 2022 including follow-up.

Outcome: Outcome of the patient was studied in terms of final outcome i.e. mortality or survival and secondary outcome.

Statistical Analysis: Data was described in terms of range; mean ±standard deviation (± SD), median, frequencies (number of cases) and relative frequencies (percentages) as appropriate. All statistical calculations will be done using (Statistical Package for the Social Science) SPSS 21version (SPSS Inc., Chicago, IL, USA) statistical program for Microsoft Windows.

OBSERVATION AND RESULTS

TABLE 1: DIVISION OF ACUTE PYELONEPHRITIS

TOTAL PATIENTS	120	Percentage
Emphysematous pyelonephritis (EPN)	21	17.5%
Non-Emphysematous pyelonephritis (NEPN)	99	82.5%

Out of total 120 patients, 99 patients had NEPN and 21 patients had EPN.

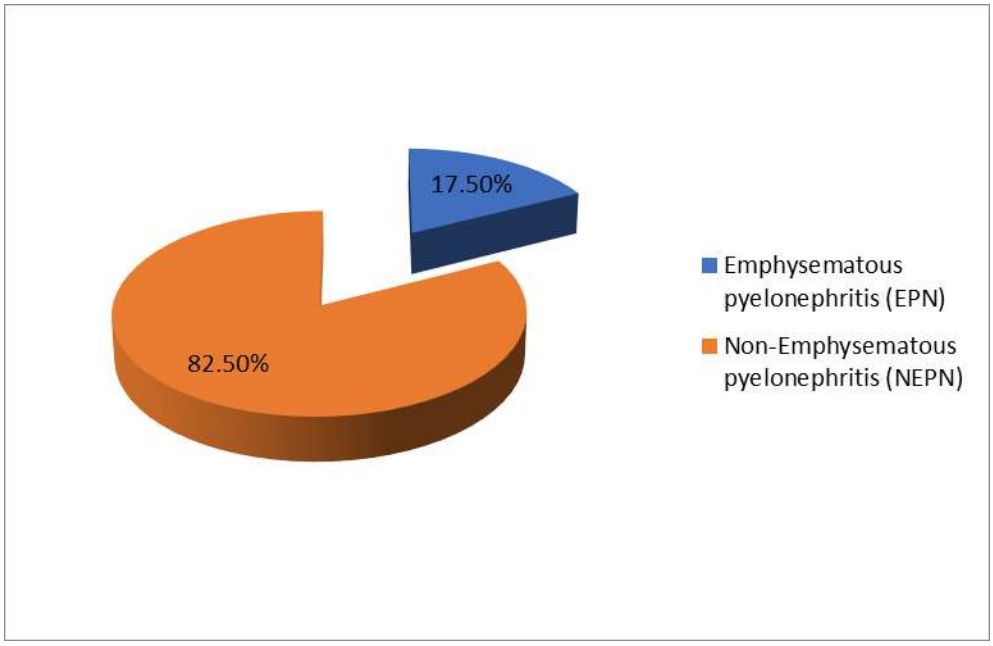

FIGURE 1: DIVISION OF ACUTE PYELONEPHRITIS

TABLE 2: AGE WISE DISTRIBUTION OF PATIENTS

		Total		NEPN		EPN		Chi-square value	p-value
		No. of cases	%age	No. of cases	%age	No. of cases	%age		
AGE GROUP	18-30	4	3.3%	3	3.0%	1	4.76%	6.838	0.233
	31-40	9	7.5%	8	8.1%	1	4.76%		
	51-60	31	25.8%	22	22.2%	9	42.86%		
	61-70	32	26.7%	28	28.3%	4	19.05%		
	71-80	15	12.5%	14	14.1%	1	4.76%		
	> 80	5	4.2%	3	3.0%	2	9.52%		
Total		120	100%	99	100%	21	100%		

The majority of patients (26.7%) in our study belonged to the 61–70 years age group. The mean age of patients was 58.17±13.28 years. Majority of patients of EPN were in age group of 51-60 years.

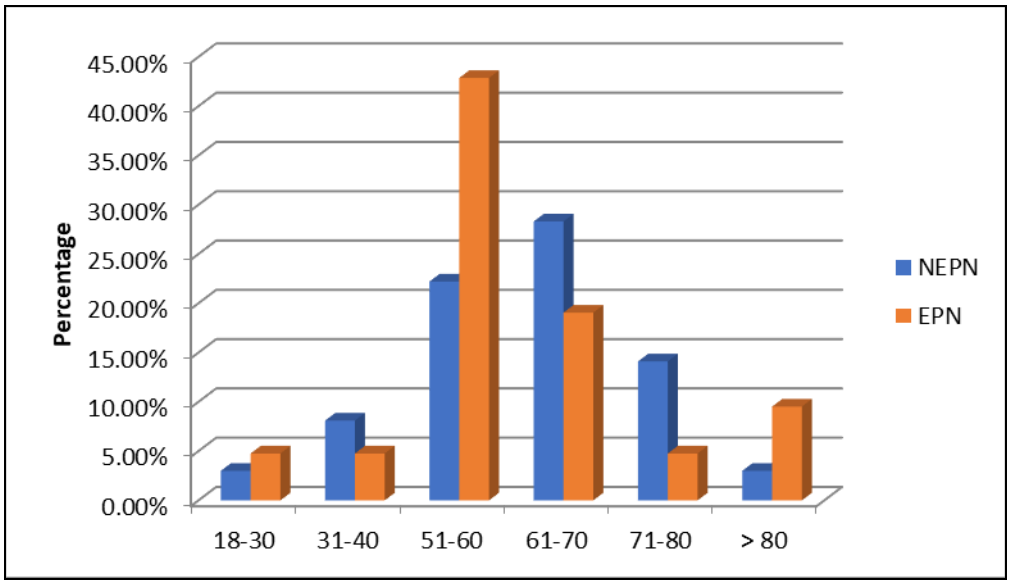

FIGURE 2: AGE WISE DISTRIBUTION OF PATIENTS

TABLE 3: GENDER WISE DISTRIBUTION OF PATIENTS

		Total (n=120)		NEPN (n=99)		EPN (n=21)		Chi-square value	p-value
		No. of cases	%age	No. of cases	%age	No. of cases	%age		
GENDER	FEMALE	41	34.20%	32	32.3%	9	42.86%		
	MALE	79	65.80%	67	67.7%	12	57.14%	0.855	0.355
Total		120	100%	99	100%	21	100%		

Among the 120 patients, 65.8% of the patients were men and 34.2% were women. Overall there was male preponderance. Among NEPN, 32.3% of the population were females and 67.7% were males. Males constituted 57.14% of the EPN category, while females were 42.86%.

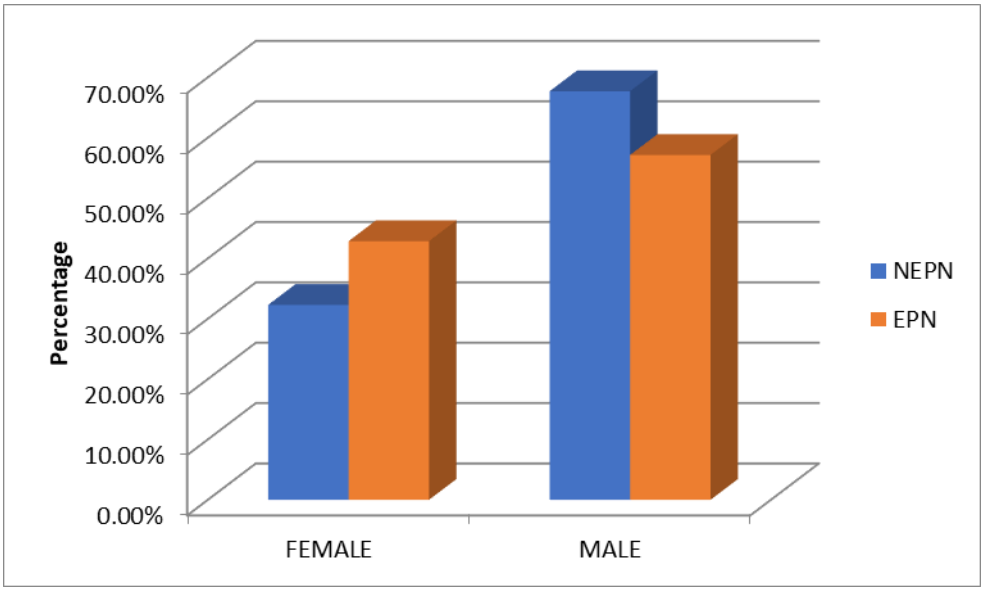

FIGURE 3: GENDER WISE DISTRIBUTION OF PATIENTS

TABLE 4: CLINICAL FEATURES OF PATIENTS WITH ACUTE PYELONEPHRITIS

		Total (n=120)		NEPN (n=99)		EPN (n=21)		Chi-square value	p-value
CHIEF COMPLAINTS		No. of cases	%age	No. of cases	%age	No. of cases	%age		
FEVER		87	72.5%	69	69.7%	18	85.7%	2.229	0.135
FLANK/ABDOMINAL PAIN		63	52.5%	50	50.5%	13	61.9%	0.903	0.342
DECREASE URINE OUTPUT		46	38.3%	34	34.3%	12	57.1%	3.810	0.082
DYSURIA		39	32.5%	33	33.3%	6	28.6%	0.179	0.672
NAUSEA/VOMITING		36	30.0%	29	29.3%	7	33.3%	0.135	0.714
ALTERED SENSORIUM		10	8.3%	9	9.1%	1	4.8%	0.425	0.514
OTHERS	LOOSE STOOLS	8	6.7%	4	4.0%	4	19.0%	8.091	0.044
	SHORTNESS OF BREATH	7	5.8%	7	7.1%	0	0.0%		
	PEDAL EDEMA	3	2.5%	2	2.0%	1	4.8%		

Fever was the most common presenting complaint in 72.5% of patients followed by flank/abdominal pain in 52.5%. Fever was present in 85.7% of EPN patients and 69.7% of NEPN patients.

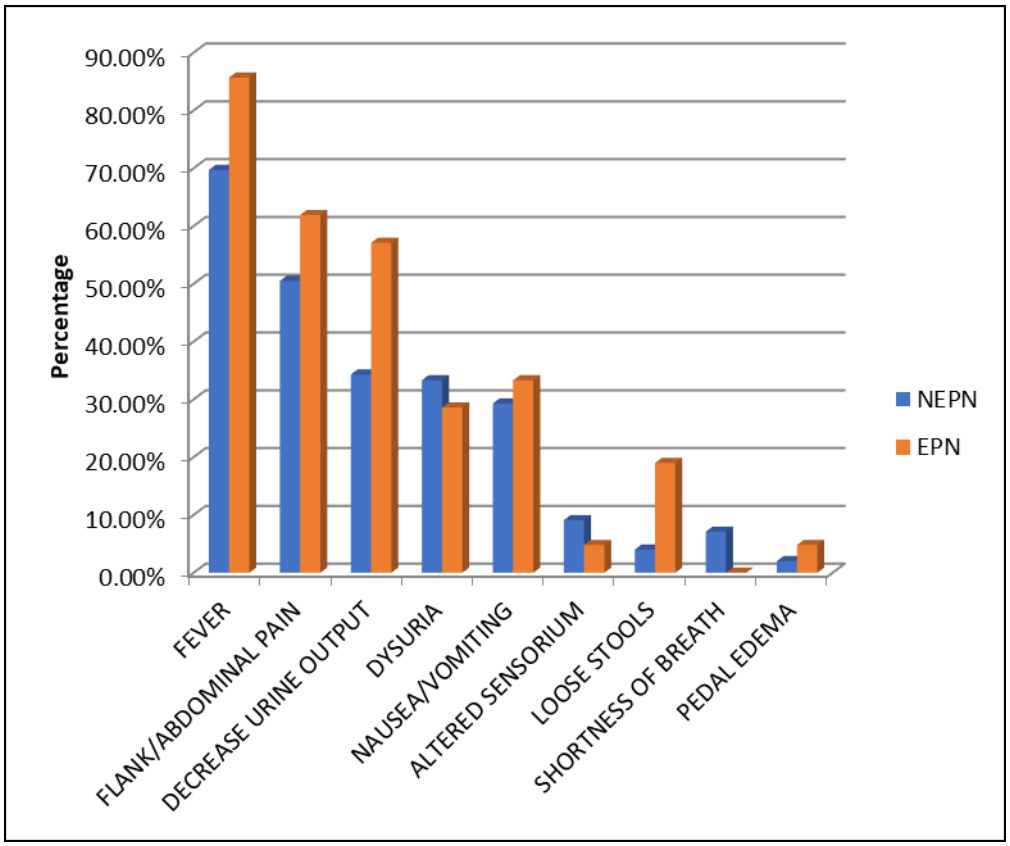

FIGURE 4: CLINICAL FEATURES OF PATIENTS WITH ACUTE PYELONEPHRITIS

TABLE 5: RISK FACTORS FOR ACUTE PYELONEPHRITIS

RISK FACTORS		Total (n=120)		NEPN (n=99)		EPN (n=21)		Chi-square value	p-value
		No. of cases	%age	No. of cases	%age	No. of cases	%age		
DIABETES		90	75.00%	70	70.7%	20	95.24%	5.56	0.024
HYPERTENSION		58	48.30%	51	51.5%	7	33.33%	2.293	0.154
CKD		37	30.80%	29	29.3%	8	38.10%	0.629	0.428
CAD		23	19.20%	21	21.2%	2	9.52%	1.528	0.216
HYPOTHYROID		10	8.30%	9	9.1%	1	4.76%	0.425	0.514
RENAL STONES		8	6.70%	5	5.1%	3	14.29%	2.374	0.123
CLD		3	2.50%	3	3.0%	0	0.00%	0.653	0.419
CVA		3	2.50%	2	2.0%	1	4.76%	0.534	0.465
COPD		2	1.70%	2	2.0%	0	0.00%	0.431	0.511
RHEUMATOID ARTHRITIS		2	1.70%	2	2.0%	0	0.00%	0.431	0.511
SEIZURE DISORDER		2	1.70%	2	2.0%	0	0.00%	0.431	0.511
OTHERS	ADENOCARCINOMA PROSTATE	1	0.80%	1	1.0%	0	0.00%	0.214	0.644
	B.A	1	0.80%	1	1.0%	0	0.00%	0.214	0.644
	BPH	1	0.80%	1	1.0%	0	0.00%	0.214	0.644
	CARCINOMA CERVIX	1	0.80%	1	1.0%	0	0.00%	0.214	0.644
	POST RENAL TRANSPLANT	1	0.80%	0	0.0%	1	4.76%	4.754	0.029
	PULMONARY TUBERCULOSIS	1	0.80%	1	1.0%	0	0.00%	0.214	0.644

Diabetes mellitus was the most common risk factor for acute pyelonephritis seen in 75% of the cases. Diabetes was significantly associated with development of EPN (P value < 0.05). 70.7% of NEPN patients had diabetes, compared to 95.24% of EPN patients. Hypertension was second most common risk factor seen in 48.3% of cases

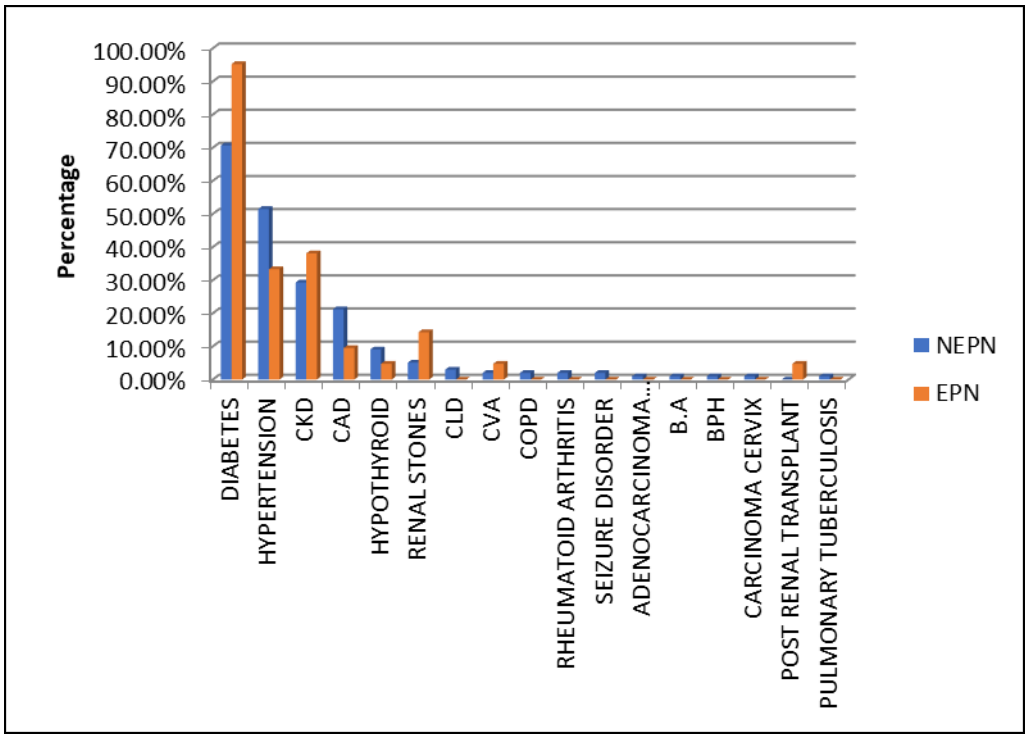

FIGURE 5: RISK FACTORS FOR ACUTE PYELONEPHRITIS

TABLE 6: GLYCOSYLATED HEMOGLOBIN VALUES ON PRESENTATION

		Total		NEPN		EPN		Chi-square value	p-value
GLYCOSYLATED HEMOGLOBIN LEVELS (HbA1c)	< 7	36	30.0%	32	32.32%	4	19.05%	6.099	0.047
	7-7.5	3	2.5%	1	1.01%	2	9.52%		
	> 7.5	81	67.5%	66	66.67%	15	71.43%		
Total		120	100.0%	99	100%	21	100%		

67.5% of patients had HbA1c levels >7.5. Significant number of EPN patients had uncontrolled diabetic status.

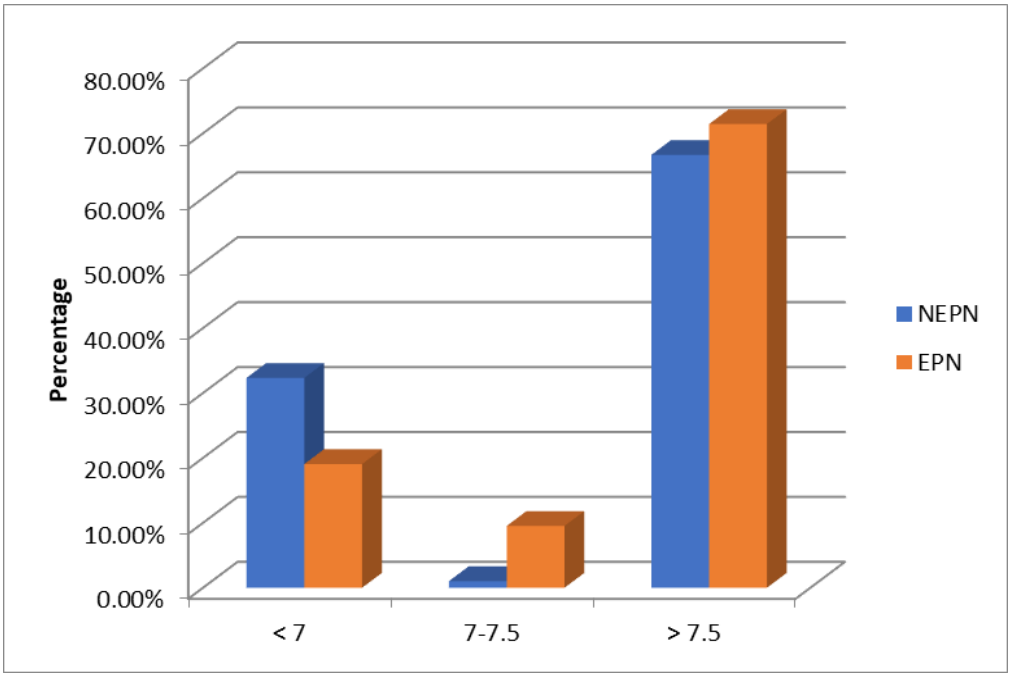

FIGURE 6: GLYCOSYLATED HEMOGLOBIN VALUES ON PRESENTATION

TABLE 7: PYURIA ON URINE ANALYSIS

PUS CELLS	No. of cases	Percentage
< 5	3	2.50%
> 5	117	97.50%

Urine analysis showed more than 5 pus cells in majority of patients (97.5%)

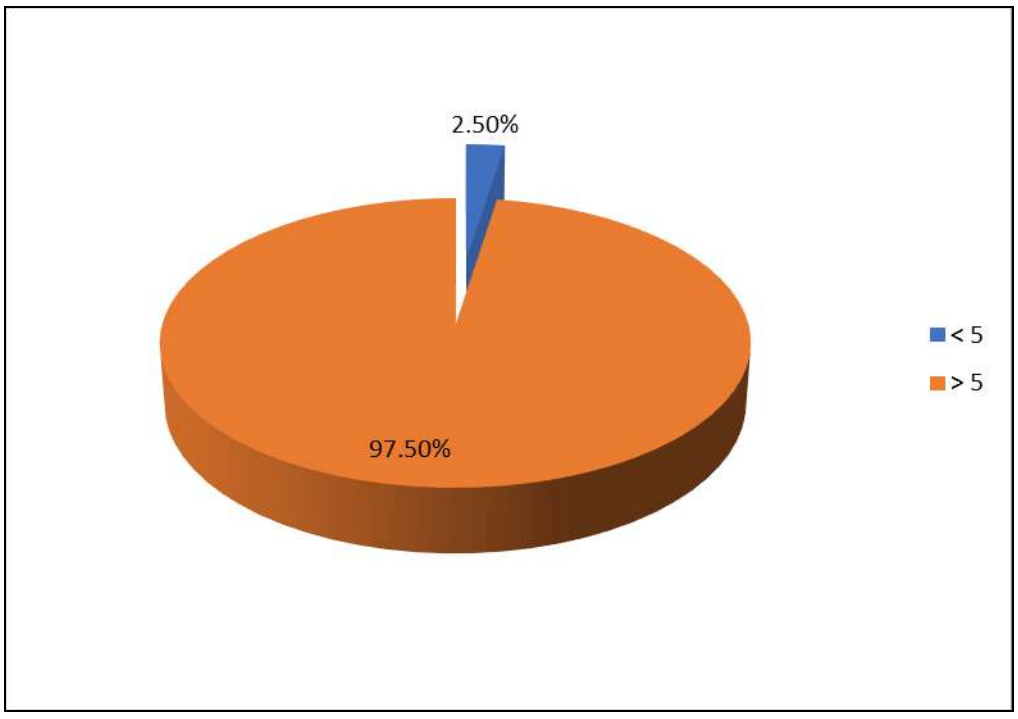

FIGURE 7: PYURIA ON URINE ANALYSIS

TABLE 8: URINE/PCN CULTURE

	Total		NEPN		EPN		Chi-square value	p-value
URINE/ DRAIN CULTURE	No. of cases	%age	No. of cases	%age	No. of cases	%age		
POSITIVE	71	59.17%	55	55.6%	16	76.19%	3.053	0.081
NEGATIVE	49	40.83%	44	44.4%	5	23.81%		

Urine culture was positive in 59.17% of cases. Higher number of EPN cases (76.19%) had positive culture, while only 55.16% of NEPN patients had positive urine/PCN culture.

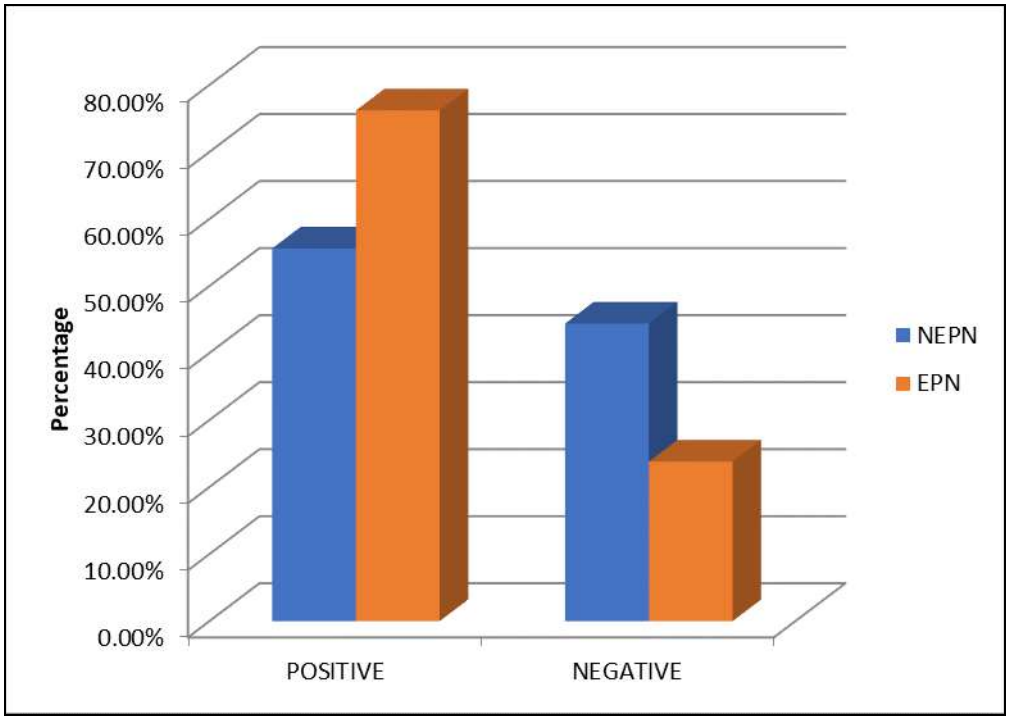

FIGURE 8: URINE/ PCN CULTURE

TABLE 9: URINE CULTURE SENSTIVITY

		Total		NEPN		EPN		Chi-square value	p-value
		No. of cases	%age	No. of cases	%age	No. of cases	%age		
URINE/ PCN CULTURE	E.COLI	31	43.7%	22	40.0%	9	56.25%	7.547	0.374
	CANDIDA	14	19.7%	12	21.8%	2	12.50%		
	KLEBSIELLA	13	18.3%	9	16.4%	4	25.00%		
	PSEUDOMONAS	8	11.3%	7	12.7%	1	6.25%		
	ENTEROCOCCUS FAECALIS	3	4.2%	3	5.5%	0	0.00%		
	CITROBACTER	1	1.4%	1	1.8%	0	0.00%		
	STAPHYLOCOCCUS AUREUS	1	1.4%	1	1.8%	0	0.00%		
Total		71	100%	55	100%	16	100%		

Out of 120 urine samples, 71 were culture-positive and 49 were culture-negative. E. coli was the most frequent bacterium identified in 43.7% of culture-positive cases, followed by Candida, which was positive in 19.7% of cases. E.coli is present in the cultures of 40% of NEPN patients and 56.25% of EPN patients.

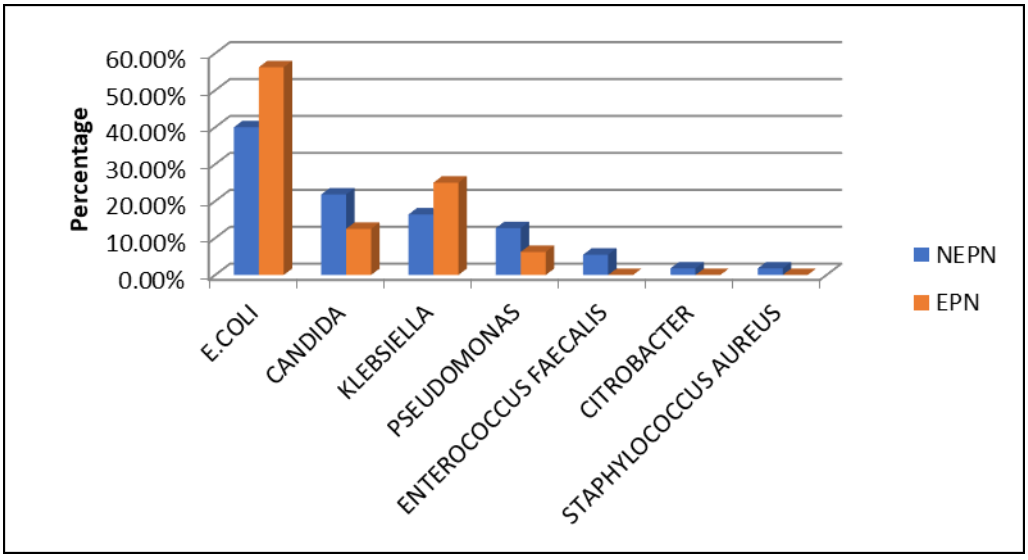

FIGURE 9: URINE CULTURE SENSTIVITY

TABLE 10: ANTIBIOTICS SENSITIVITY PATTERN IN E.COLI (URINE C/S)

ANTIBIOTICS	E.COLI (N=31)			
	S		R	
MEROPENEM	28	90.3%	3	9.7%
IMIPENEM/CILASTATIN	26	83.9%	5	16.1%
ERTAPENEM	24	77.4%	6	19.4%
COLISTIN/POLYMYXIN B	31	100.0%	0	0.0%
PIPERACILLIN/TAZOBACTAM	11	35.5%	19	61.3%
NITROFURANTOIN	23	74.2%	7	22.6%
CEFOPERAZONE/SULBACTAM	25	80.6%	6	19.4%
TIGECYCLINE	1	3.2%	0	0.0%
AMIKACIN	11	35.5%	8	25.8%
GENTAMYCIN	8	25.8%	11	35.5%

E.coli was sensitive to Colistin/Polymyxin B in 100% of cases followed by Meropenem in 90.3% of cases. E.coli was resistant to Piperacillin/Tazobactam in 61.3% of cases.

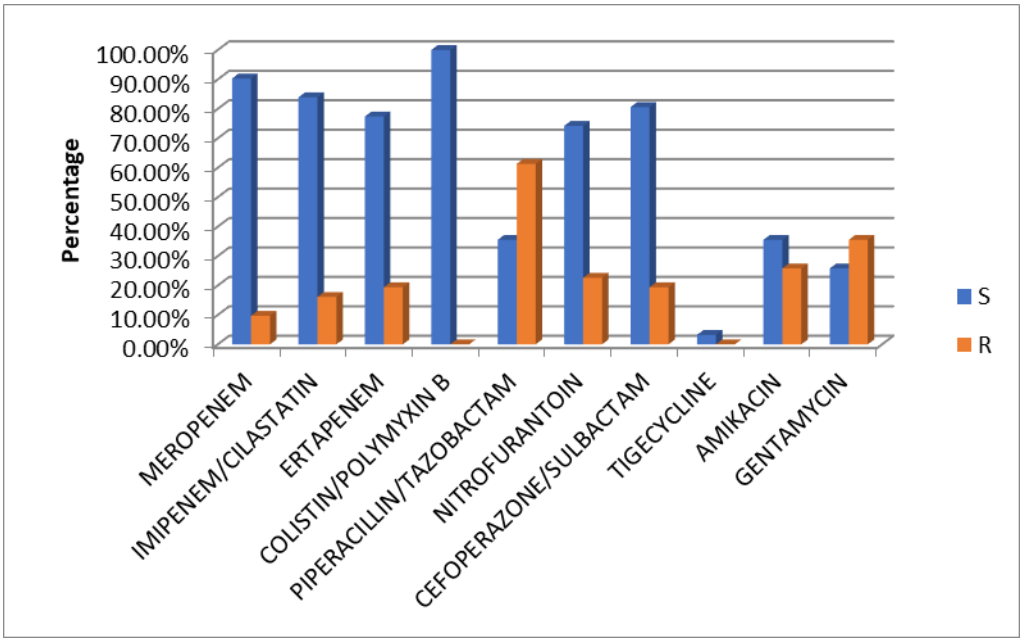

FIGURE 10: ANTIBIOTICS SENSITIVITY PATTERN IN E.COLI (URINE C/S)

TABLE 11: ANTIBIOTICS SENSITIVITY PATTERN IN KLEBSIELLA (URINE C/S)

ANTIBIOTICS	KLEBSIELLA (n=13)			
	S		R	
MEROPENEM	7	53.8%	6	46.2%
IMIPENEM/CILASTATIN	7	53.8%	6	46.2%
ERTAPENEM	5	38.5%	8	61.5%
COLISTIN/POLYMYXIN B	13	100.0%	0	0.0%
PIPERACILLIN/TAZOBACTAM	2	15.4%	10	76.9%
NITROFURANTOIN	4	30.8%	7	53.8%
CEFOPERAZONE/SULBACTAM	4	30.8%	8	61.5%
TIGECYCLINE	1	7.7%	0	0.0%
AMIKACIN	2	15.4%	6	46.2%
GENTAMYCIN	2	15.4%	7	53.8%

Klebsiella was sensitive to Colistin/Polymyxin B in 100% of cases followed by Imipenem/Cilastatin and Meropenem in 53.8% of cases. Klebsiella was resistant to Piperacillin/Tazobactam in 76.9% of cases.

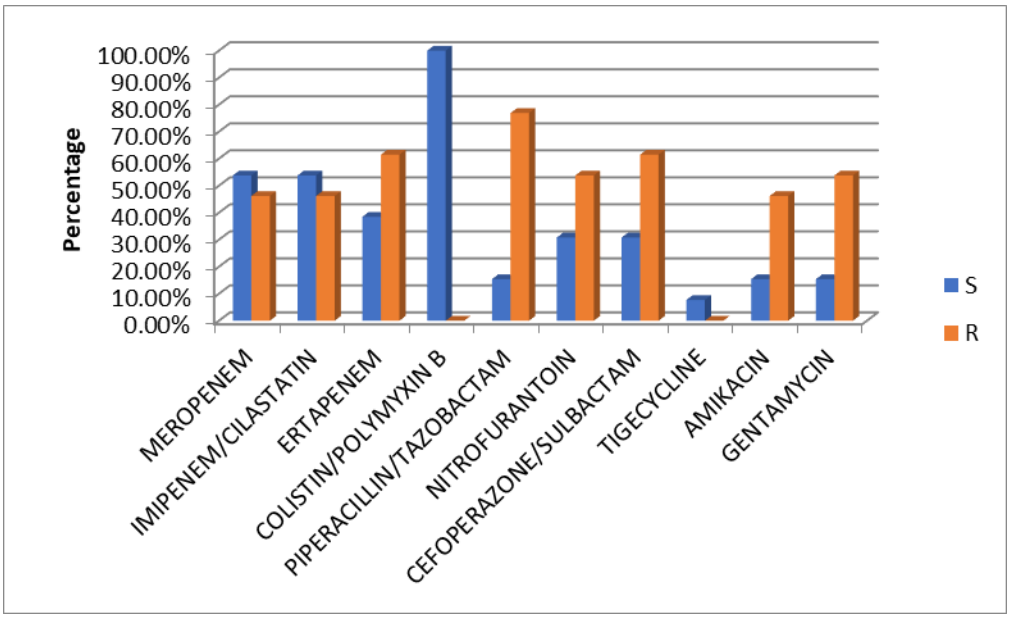

FIGURE 11: ANTIBIOTICS SENSITIVITY PATTERN IN KLEBSIELLA (URINE C/S)

TABLE 12: ANTIBIOTICS SENSITIVITY PATTERN IN PSEUDOMONAS (URINE C/S)

ANTIBIOTICS	PSEUDOMONAS (n=8)			
	S		R	
MEROPENEM	8	100.0%	0	0.0%
IMIPENEM/CILASTATIN	8	100.0%	0	0.0%
ERTAPENEM	7	87.5%	1	12.5%
COLISTIN/POLYMYXIN B	8	100.0%	0	0.0%
PIPERACILLIN/TAZOBACTAM	2	25.0%	6	75.0%
NITROFURANTOIN	4	50.0%	3	37.5%
CEFOPERAZONE/SULBACTAM	5	62.5%	3	37.5%
TIGECYCLINE	1	12.5%	0	0.0%
AMIKACIN	0	0.0%	6	75.0%
GENTAMYCIN	0	0.0%	6	75.0%

Pseudomonas was sensitive to Colistin/Polymyxin B, Meropenem and Imipenem/Cilastatin in 100% of cases followed by Ertapenem in 87.5% of cases.

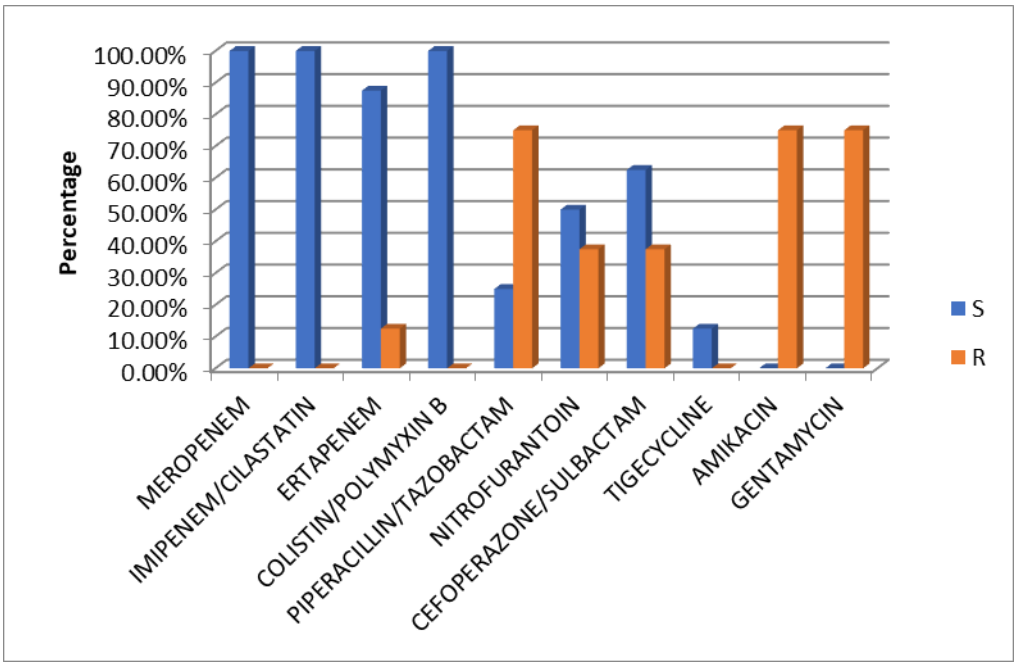

FIGURE 12: ANTIBIOTICS SENSITIVITY PATTERN IN PSEUDOMONAS (URINE C/S)

TABLE 13: ANTIBIOTICS SENSTIVITY PATTERN IN URINE CULTURE (COMBINED)

ANTIBIOTICS	S		R		
	No. of cases	%age	No. of cases	%age	Total
MEROPENEM	44	83.0%	9	17.0%	53
IMIPENEM/CILASTATIN	42	79.2%	11	20.8%	53
ERTAPENEM	37	71.2%	15	28.8%	52
COLISTIN/POLYMYXIN B	53	100.0%		0.0%	53
PIPERACILLIN / TAZOBACTAM	16	31.4%	35	68.6%	51
NITROFURANTOIN	32	65.3%	17	34.7%	49
CEFOPERAZONE / SULBACTAM	35	67.3%	17	32.7%	52

Colistin/Polymyxin B (100%) was most sensitive drug followed by meropenem (83%) in urine culture positive patients. Culture negative cases were excluded.

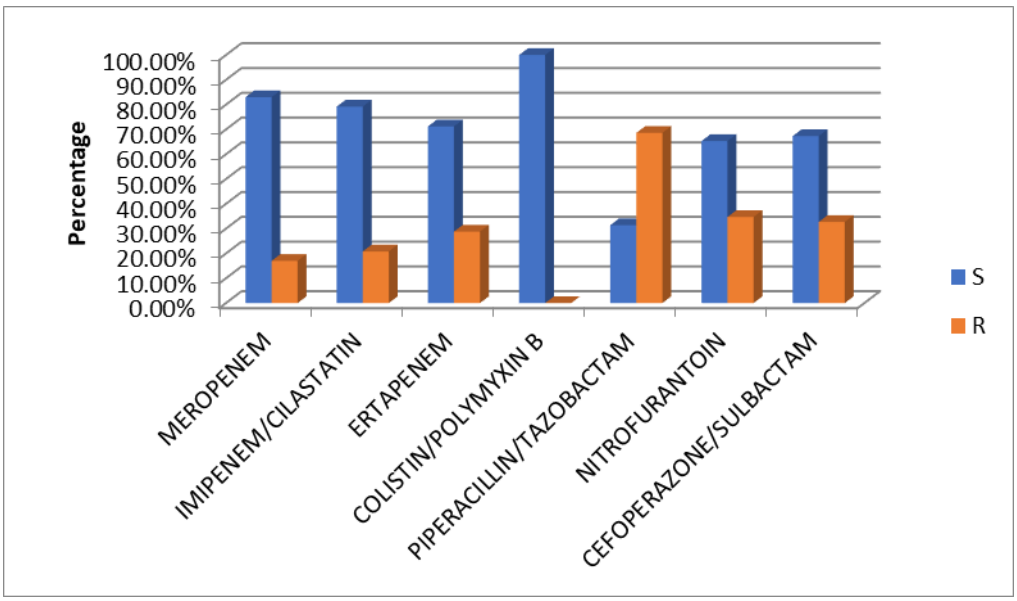

FIGURE 13: ANTIBIOTICS SENSTIVITY PATTERN IN URINE CULTURE (COMBINED)

TABLE 14: BLOOD CULTURE

	Total		NEPN		EPN		Chi-square value	p-value
BLOOD CULTURE	No. of cases	%age	No. of cases	%age	No. of cases	%age		
POSITIVE	32	26.67%	23	23.2%	9	42.86%	3.41	0.065
NEGATIVE	88	73.33%	76	76.8%	12	57.14%		

Out of 120 patients 26.7% cases were culture positive and 73.3% cases were culture negative. Amongst NEPN 23.2% of patients had blood culture positive while 42.86% patients with EPN had positive blood culture.

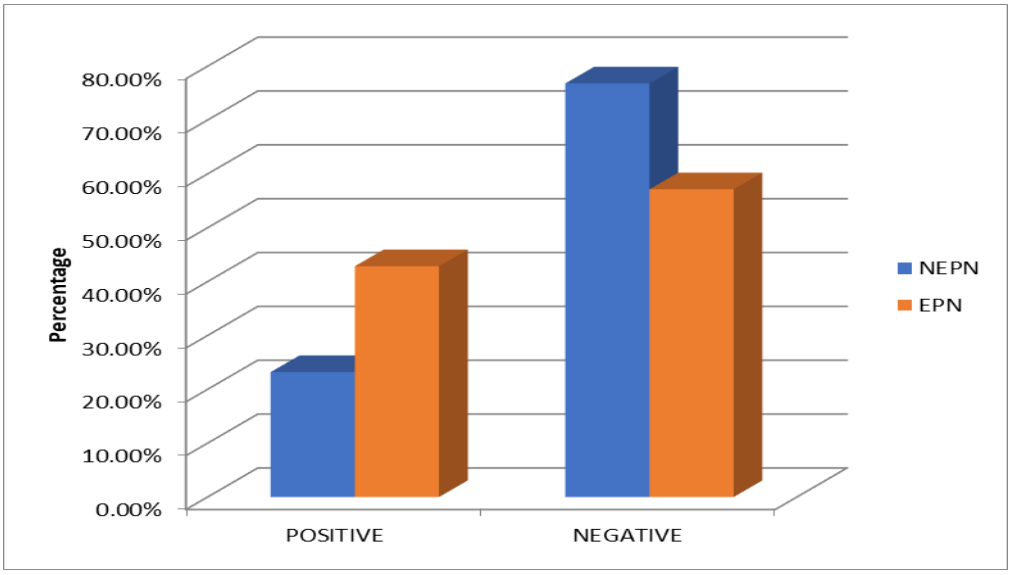

FIGURE 14: BLOOD CULTURE

TABLE 15: BLOOD CULTURE SENSITIVITY

		Total		NEPN		EPN		Chi-square value	p-value
		No. of cases	%age	No. of cases	%age	No. of cases	%age		
BLOOD CULTURE	E.COLI	20	62.50%	13	56.5%	7	77.8%	11.161	0.193
	KLEBSIELLA	5	15.63%	4	17.4%	1	11.1%		
	CANDIDA	2	6.25%	2	8.7%	0	0.0%		
	PSEUDOMONAS	2	6.25%	2	8.7%	0	0.0%		
	ACIENECTOBACTOR	1	3.13%	0	0.0%	1	11.1%		
	BUEKHOLDERIA CEPACIA	1	3.13%	1	4.3%	0	0.0%		
	CITROBACTER	1	3.13%	1	4.3%	0	0.0%		
Total		32	100.00%	23	100.0%	9	100.0%		

E. coli was the most prevalent bacterium in blood culture. It was positive in 62.5% of cases, followed by Klebsiella pneumoniae in 15.63%. 56.5% of NEPN patients tested positive for E. coli, compared to 77.8% of EPN patients.

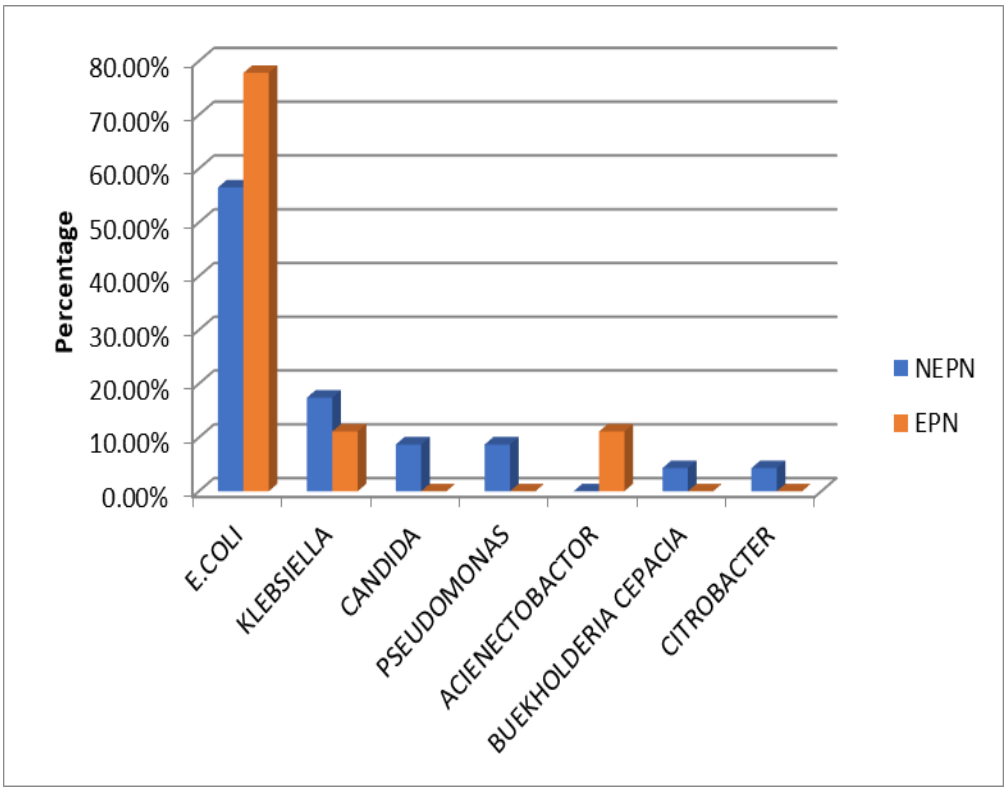

FIGURE 15: BLOOD CULTURE SENSITIVITY

TABLE 16: ANTIBIOTICS SENSITIVITY PATTERN IN E.COLI (BLOOD C/S)

ANTIBIOTICS	E.COLI (n=20)			
	S		R	
MEROPENEM	18	90.0%	2	10.0%
IMIPENEM/CILASTATIN	18	90.0%	2	10.0%
ERTAPENEM	18	90.0%	2	10.0%
COLISTIN/POLYMYXIN B	20	100.0%	0	0.0%
PIPERACILLIN/TAZOBACTAM	13	65.0%	7	35.0%
NITROFURANTOIN	18	90.0%	2	10.0%
CEFOPERAZONE/SULBACTAM	18	90.0%	2	10.0%
TIGECYCLINE	1	5.0%	0	0.0%
AMIKACIN	10	50.0%	7	35.0%
GENTAMYCIN	7	35.0%	9	45.0%

E.coli was 100% sensitive to Colistin/Polymyxin B followed by Imipenem, Meropenem and Ertapenem in 90% of cases. E.coli was resistant to Piperacillin/tazobactam combination in 45% of culture positive cases.

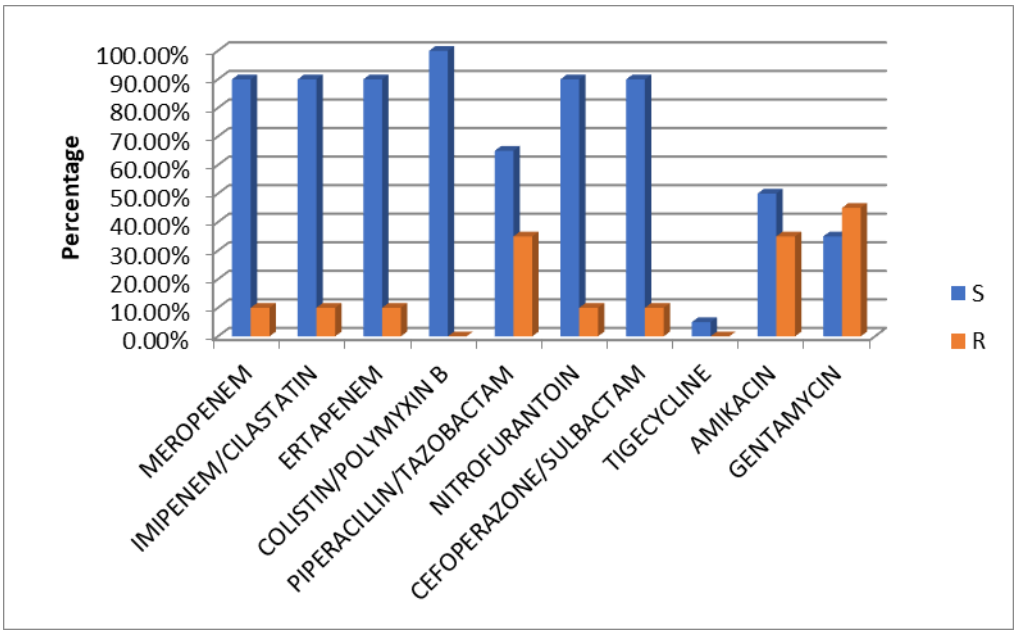

FIGURE 16: ANTIBIOTICS SENSITIVITY PATTERN IN E.COLI (BLOOD C/S)

TABLE 17: ANTIBIOTICS SENSITIVITY PATTERN IN KLEBSIELLA (BLOOD C/S)

ANTIBIOTICS	KLEBSIELLA (n=5)			
	S		R	
MEROPENEM	4	80.0%	1	20.0%
IMIPENEM/CILASTATIN	4	80.0%	1	20.0%
ERTAPENEM	4	80.0%	1	20.0%
COLISTIN/POLYMYXIN B	5	100.0%	0	0.0%
PIPERACILLIN/TAZOBACTAM	3	60.0%	2	40.0%
NITROFURANTOIN	2	40.0%	2	40.0%
CEFOPERAZONE/SULBACTAM	3	60.0%	2	40.0%
TIGECYCLINE	0	0.0%	0	0.0%
AMIKACIN	2	40.0%	1	20.0%
GENTAMYCIN	2	40.0%	1	20.0%

Klebsiella was 100% sensitive to Colistin/Polymyxin B followed by Meropenem, Imipenem and Ertapenem in 80% of cases

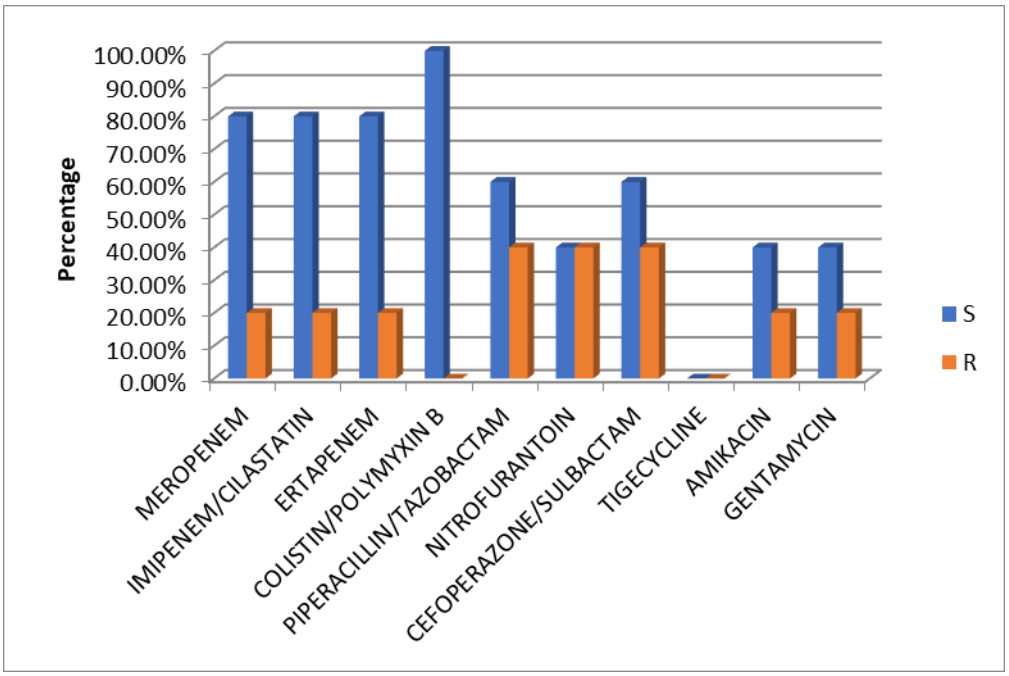

FIGURE 17: ANTIBIOTICS SENSITIVITY PATTERN IN KLEBSIELLA (BLOOD C/S)

TABLE 18: ANTIBIOTICS SENSITIVITY PATTERN IN PSEUDOMONAS (BLOOD C/S)

ANTIBIOTICS	PSEUDOMONAS (n=2)			
	S		R	
MEROPENEM	1	50.0%	1	50.0%
IMIPENEM/CILASTATIN	1	50.0%	1	50.0%
ERTAPENEM	1	50.0%	1	50.0%
COLISTIN/POLYMYXIN B	2	100.0%	0	0.0%
PIPERACILLIN/TAZOBACTAM	0	0.0%	2	100.0%
NITROFURANTOIN	1	50.0%	0	0.0%
CEFOPERAZONE/SULBACTAM	1	50.0%	0	0.0%
TIGECYCLINE	0	0.0%	0	0.0%
AMIKACIN	2	100.0%	0	0.0%
GENTAMYCIN	2	100.0%	0	0.0%

Pseudomonas was 100% sensitive to Colistin/Polymyxin B followed by Meropenem, Imipenem, Ertapenem, Nitrofurantoin and Cefoperazone/Sulbactam in 50% of cases.

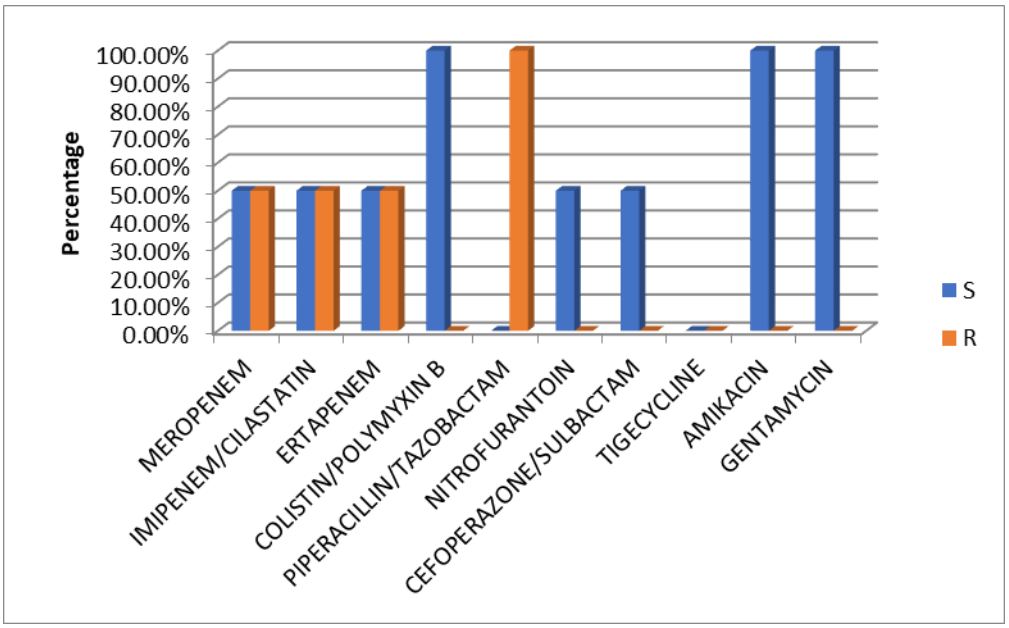

FIGURE 18: ANTIBIOTICS SENSITIVITY PATTERN IN PSEUDOMONAS (BLOOD C/S)

TABLE 19: ANTIBIOTICS SENSTIVITY PATTERN IN BLOOD CULTURE (COMBINED)

ANTIBIOTICS	S		R		Total
	No. of cases	%age	No. of cases	%age	
COLISTIN/POLYMYXIN B	27	90.00 %	3	10.00 %	30
MEROPENEM	25	83.30 %	5	16.70 %	30
ERTAPENEM	25	83.30 %	5	16.70 %	30
IMIPENEM/CILASTATIN	24	80.00 %	6	20.00 %	30
CEFOPERAZONE/SULBACTAM	24	82.80 %	5	17.20 %	29
NITROFURANTOIN	22	81.50 %	5	18.50 %	27
PIPERACILLIN/TAZOBACTAM	17	56.70 %	13	43.30 %	30
AMIKACIN	16	64.00 %	9	36.00 %	25
GENTAMYCIN	12	50.00 %	12	50.00 %	24

Colistin/Polymyxin B (90%) was most sensitive drug followed by Meropenem and Ertapenem (83%) in urine culture positive patients. Culture negative cases were excluded.

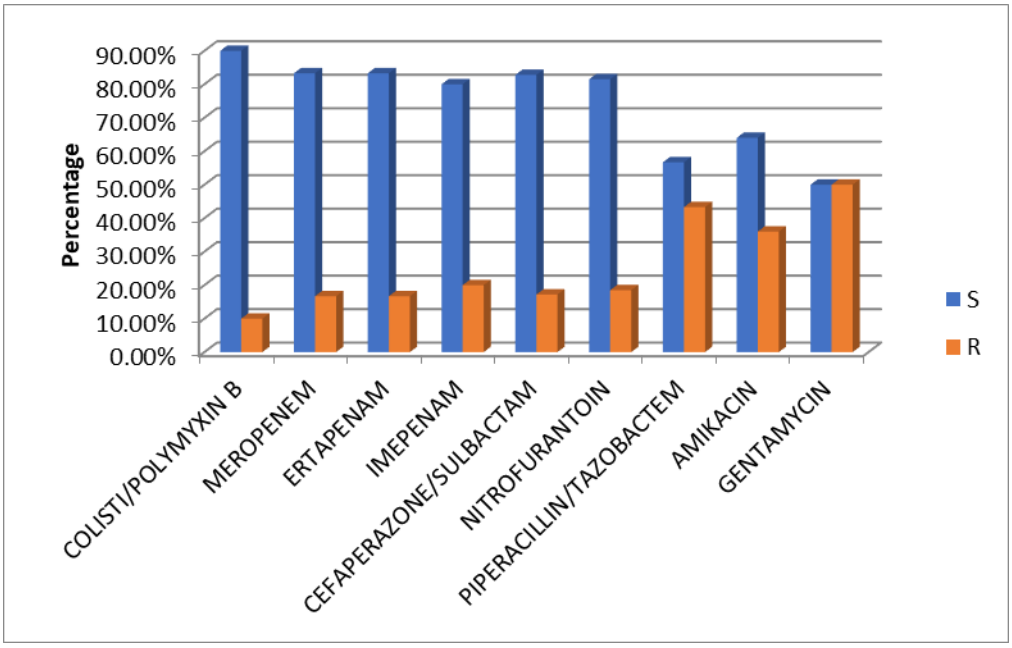

FIGURE 19: ANTIBIOTICS SENSTIVITY PATTERN IN BLOOD CULTURE (COMBINED)

TABLE 20: EMPIRICAL ANTIBIOTICS STARTED IN HOSPITAL

	No. of cases	%age
MEROPENEM+TEICOPLANIN	81	67.50%
CEFOPERAZONE/SULBACTAM	15	12.50%
IMIPENEM+TEICOPLANIN	9	7.50%
PIPERACILLIN/TAZOBACTAM+TEICOPLANIN	8	6.67%
ERTAPENEM+TEICOPLANIN	6	5.00%
ERTAPENEM	1	0.83%
Total	120	100.00%

Combination of Meropenem and Teicoplanin was most commonly used empirical antibiotics in 67.50% of cases followed by Cefoperazone/Sulbactam in 12.50% of cases.

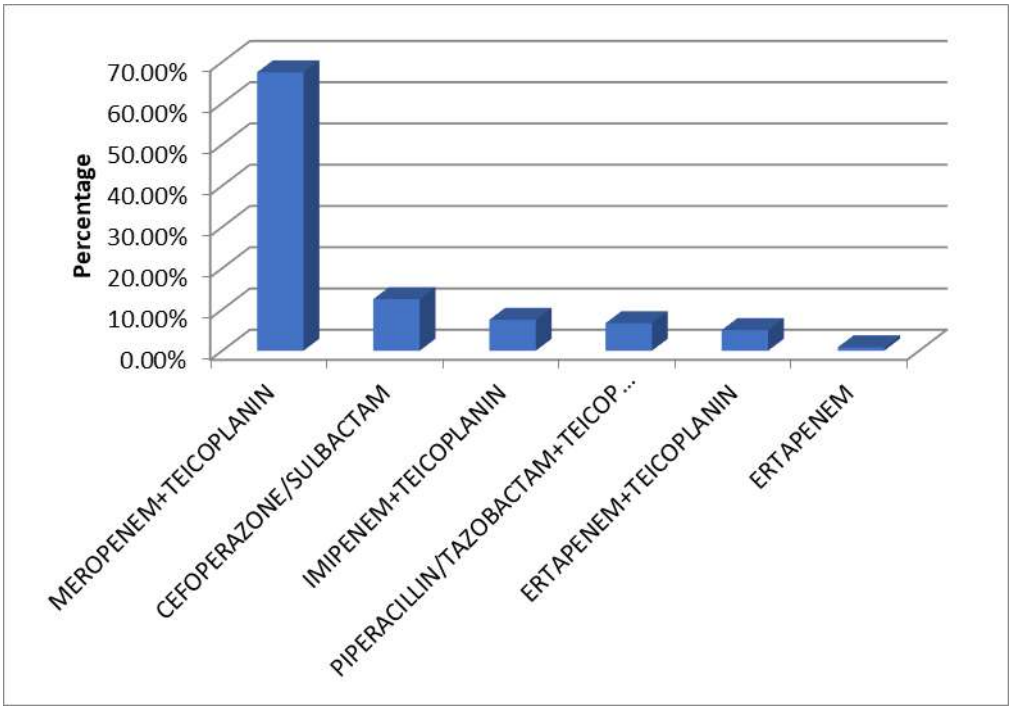

FIGURE 20: EMPIRICAL ANTIBIOTICS STARTED IN HOSPITAL

TABLE 21: RADIOLOGICAL FINDINGS IN ACUTE PYELONEPHRITIS

RADIOLOGICAL FINDINGS	No. of cases	Percentage
LEFT SIDED APN	35	29.20%
RIGHT SIDED APN	28	23.30%
B/L APN	32	26.70%
LEFT SIDED EPN	10	8.30%
RIGHT SIDED EPN	9	7.50%
B/L EPN	2	1.70%
RENAL ABSCESS	7	5.80%
PAPILLARY NECROSIS	3	2.50%

29.2% patients had left side APN, 23.3 % patients had right side APN and 26.7% patients had B/L APN. Patients with EPN had a left-sided involvement in 8.3%, right-sided involvement in 7.5%, and a B/L EPN in 1.7% cases. Papillary necrosis was seen in 2.5% of patients, whereas renal abscess was seen in 5.8% of patients.

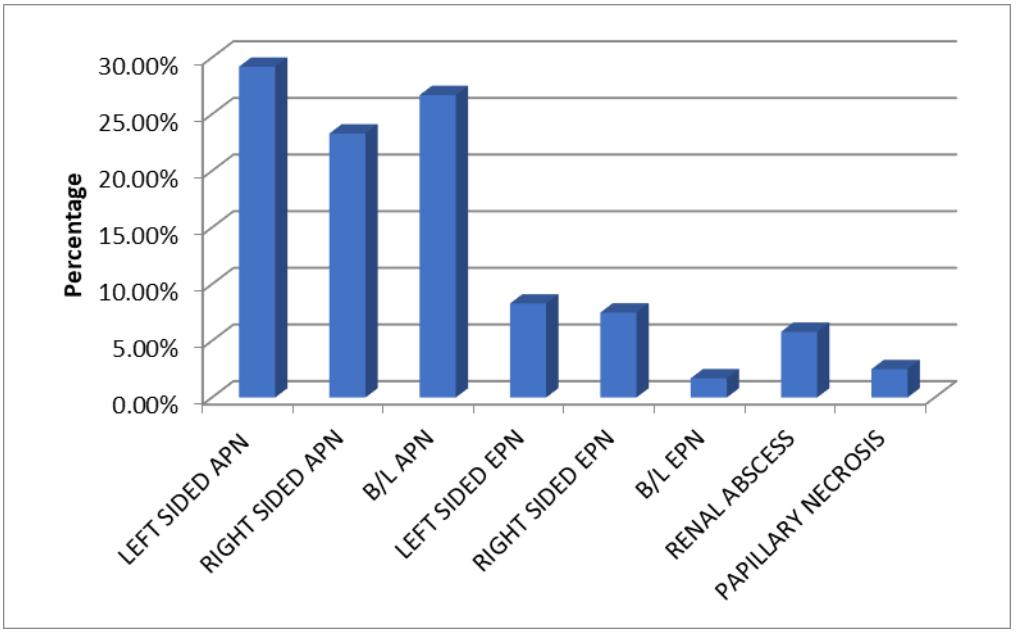

FIGURE 21: RADIOLOGICAL FINDINGS IN ACUTE PYELONEPHRITIS

TABLE 22: WAN RADIOLOGICAL CLASSIFICATION OF EPN

WAN et al	No. of cases	Percentage
TYPE 1	20	95.24%
TYPE 2	1	4.76%

According to Wan classification, Out of 21 cases of EPN, 20 patients were Wan type 1 and one patient was Wan type 2.

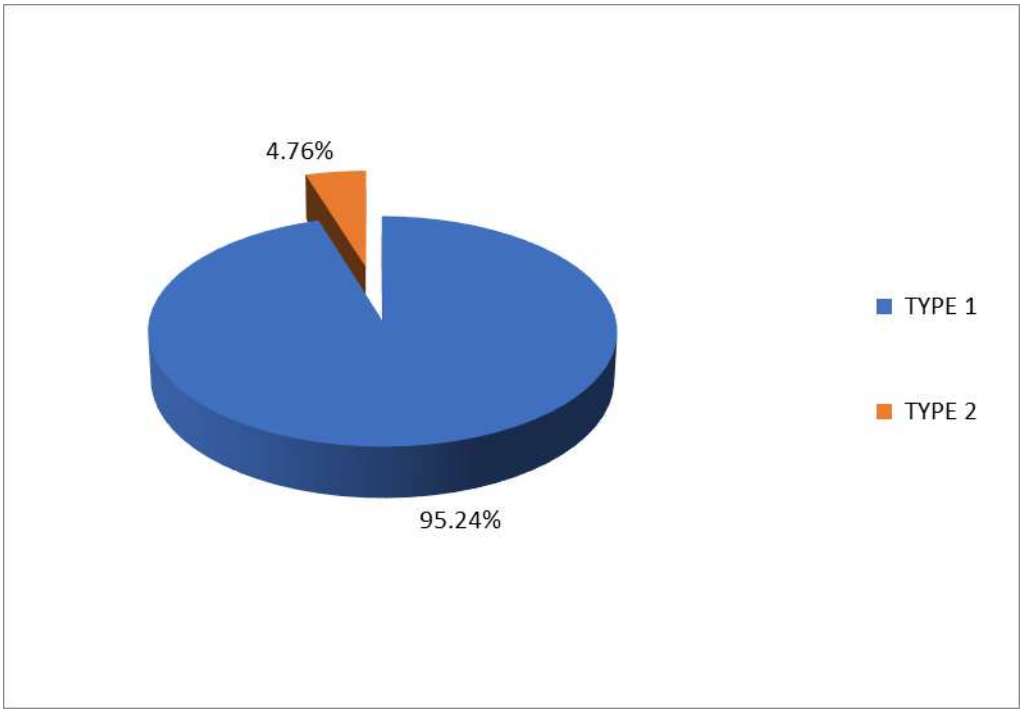

FIGURE 22: WAN RADIOLOGICAL CLASSIFICATION OF EPN

TABLE 23: HUANG AND TSENG CLASSIFICATION OF EPN

HUANG AND TSENG	No. of cases	Percentage
CLASS 1	3	14.29%
CLASS 2	8	38.10%
CLASS 3 A	5	23.81%
CLASS 3B	3	14.29%
CLASS 4	2	9.52%

According to Huang and Tseng classification, Out of 21 cases of EPN, 3 patients had class 1, 8 patients had class 2, 5 patients had class 3A, 3 patients had class 3B, two patients had class 4.

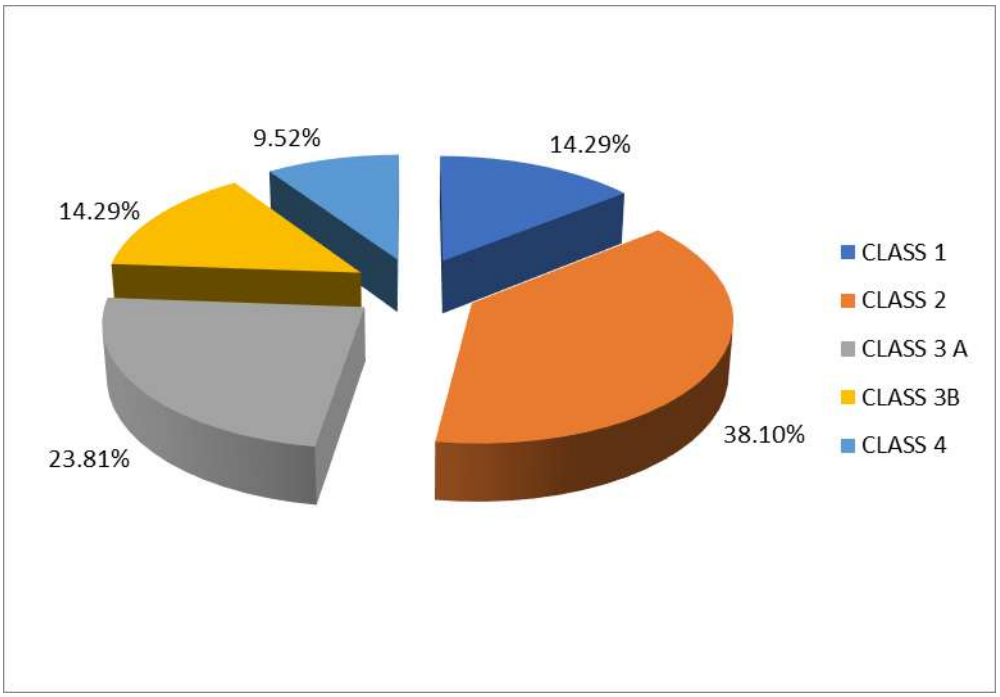

FIGURE 23: HUANG AND TSENG CLASSIFICATION OF EPN

TABLE 24: NEED FOR RENAL REPLACEMENT THERAPY

NEED FOR RENAL REPLACEMENT THERAPY		Total		NEPN		EPN		Chi-square value	p-value
		No. of cases	%age	No. of cases	%age	No. of cases	%age		
	REQUIRED	41	34.20%	33	33.3%	8	38.10%	0.175	0.676
	NOT REQUIRED	79	65.8%	66	66.7%	13	61.9%		

Out of 120 patients enrolled in study, 34.2% of patients required renal replacement therapy. 33.3% of NEPN patients required renal replacement therapy and 38.1% of EPN patients required renal replacement therapy.

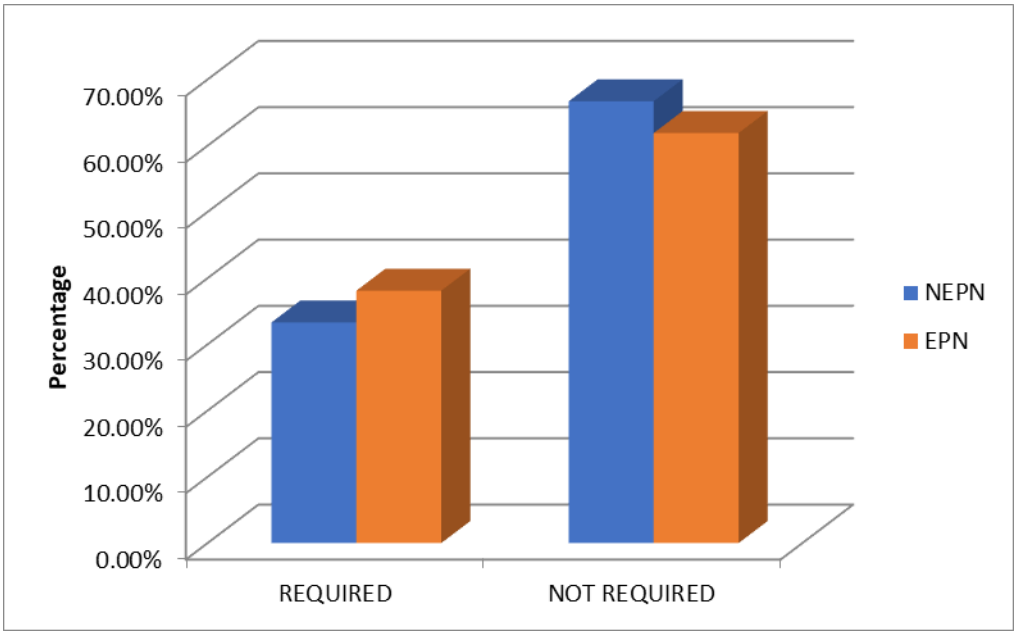

FIGURE 24: NEED FOR RENAL REPLACEMENT THERAPY

TABLE 25: NEED FOR RADIOLOGICAL/SURGICAL INTERVENTION

		Total		NEPN		EPN		Chi-square value	p-value
		No. of cases	%age	No. of cases	%age	No. of cases	%age		
RADIOLOGICAL/SURGICAL INTEVENTION	NOT REQUIRED	52	43.30%	47	47.5%	5	23.81%	3.951	0.055
	REQUIRED	68	56.70%	52	52.5%	16	76.19%		
Total		120	100.00%	99	100.0%	21	100.00%		

56.7% of patients require surgical/radiological intervention. Amongst EPN, 76.19% patients require surgical/radiological intervention while 52.5% NEPN patients required the same.

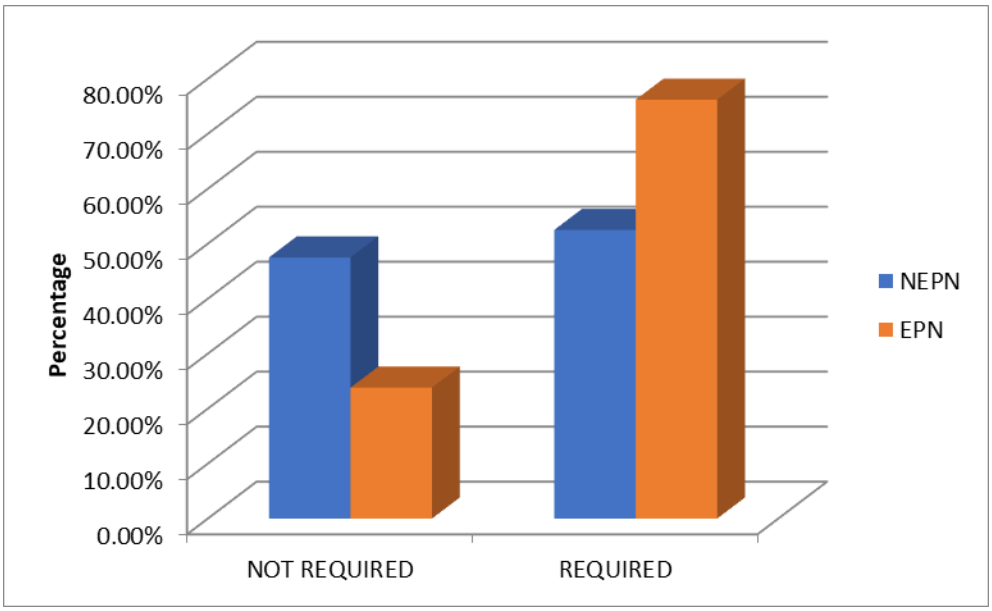

FIGURE 25: NEED FOR RADIOLOGICAL/SURGICAL INTERVENTION

TABLE 26: TYPE OF SURGICAL/RADIOLOGICAL INTERVENTION REQUIRED

	Total		NEPN		EPN		Chi-square value	p-value
	No. of cases	%age	No. of cases	%age	No. of cases	%age		
Percutaneous nephrostomy (PCN)	19	15.80%	15	15.2%	4	19.05%	0.521	0.771
Percutaneous drainage (PCD)	15	12.50%	8	8.1%	7	33.33%	10.101	0.005
DJ Stenting	38	31.70%	32	32.3%	6	28.57%	5.157	0.076
Nephrectomy	1	0.80%	0	0.0%	1	4.76%	4.951	0.084

Out of 68 patients who required surgical/ radiological intervention, 31.7% of patients needed DJ stenting, 15.8% of patients required PCN, 12.5% of patients required PCD and 1 patient (0.8%) required nephrectomy.

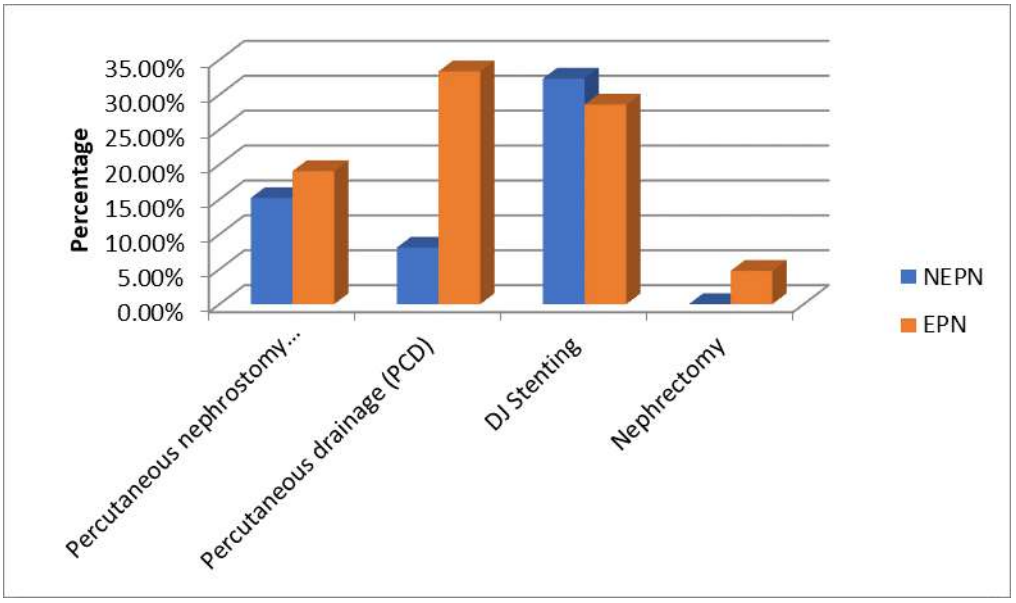

FIGURE 26: TYPE OF SURGICAL/RADIOLOGICAL INTERVENTION REQUIRED

TABLE 27: MULTIORGAN INVOLVEMENT

		Total		NEPN		EPN		Chi-square value	p-value
		No. of cases	%age	No. of cases	%age	No. of cases	%age		
HEPATIC DYSFUNCTION	PRESENT	11	9.20%	7	7.07%	4	19.05%	2.985	0.1
	ABSENT	109	90.80%	92	92.93%	17	80.95%		
RENAL DYSFUNCTION (AKI/ ACUTE ON CKD)	PRESENT	112	93.30%	92	92.93%	20	95.24%	0.148	0.7
	ABSENT	8	6.70%	7	7.07%	1	4.76%		
SUPPLEMENTAL OXYGEN SUPPORT	REQUIRED	51	42.50%	40	40.40%	11	52.38%	1.017	0.313
	NOT REQUIRED	69	57.50%	59	59.60%	10	47.62%		
TYPE OF OXYGEN SUPPORT	BINASAL	28	23.33%	23	23.20%	5	23.81%	0.003	0.955
	MECHANICAL VENTILATION	13	10.83%	10	10.10%	3	14.29%	0.314	0.575
	NRBM	2	1.67%	2	2.00%	0	0.00%	0.431	0.511
	VENTURY	8	6.67%	5	5.10%	3	14.29%	2.375	0.123
	NOT REQUIRED	69	57.50%	59	59.60%	10	47.62%	-	-
ICU REQUIREMENT	PRESENT	27	22.50%	20	20.20%	7	33.33%	1.713	0.191
	ABSENT	93	77.50%	79	79.80%	14	66.70%	-	-

NEED OF VASOPRESSORS	REQUIRED	44	36.70%	36	36.40%	8	38.10%	0.022	0.881
	NOT REQUIRED	76	63.30%	63	63.60%	13	61.90%		
MULTIORGAN FAILURE	PRESENT	11	9.20%	7	7.10%	4	19.05%	2.985	0.084
	ABSENT	109	90.80%	92	92.90%	17	81.00%	-	-

Among 120 patients, 9.2% patients had hepatic dysfunction and 93.3%patients had renal dysfunction.

Among 120 patients, 42.5% patient needed supplemental oxygen. Amongst NEPN patients, 40.4% of patients required supplemental oxygen support. Amongst EPN group 52.38% of patients required oxygen support.

Among 120 patients, 23.3% patients required binasal support followed by 10.8% of patients required mechanical ventilation. NRBM was required in 1.7% of cases and Venturi in 6.7% of cases.

Out of 120 patients recruited in the study, 22.5% of patients required ICU care. Amongst NEPN, 33.3% of patients required ICU care and 20.2% EPN patients required ICU care.

Among 120 patients taken in the study, 36.7% of patients developed shock and required vasopressor support. Out of which 36.4% of NEPN patients and 38.1% EPN patients required vasopressor support.

9.2% of patient developed multiorgan failure in the form of hepatic, renal and respiratory failure.

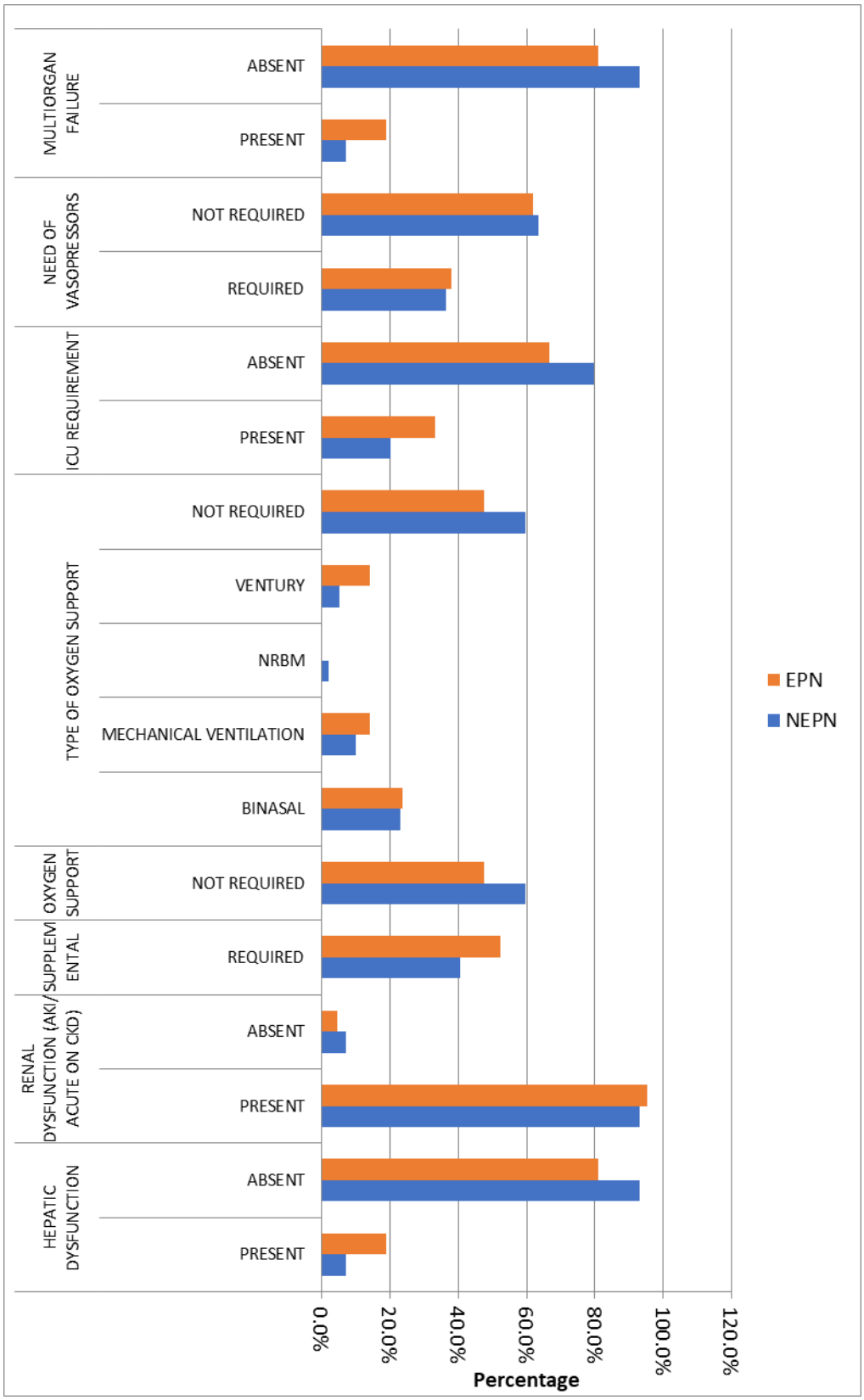

FIGURE 27: MULTIORGAN INVOLVEMENT

TABLE 28: NEED FOR CHANGE IN ANTIBIOTICS ACCORDING TO CULTURE SENSTIVITY

Need for Change in antibiotics	No. of cases	Percentage
PRESENT	45	37.50%
ABSENT	75	62.50%
Total	120	100.00%

37.5% of patients required change of antibiotics after culture sensitivity reports.

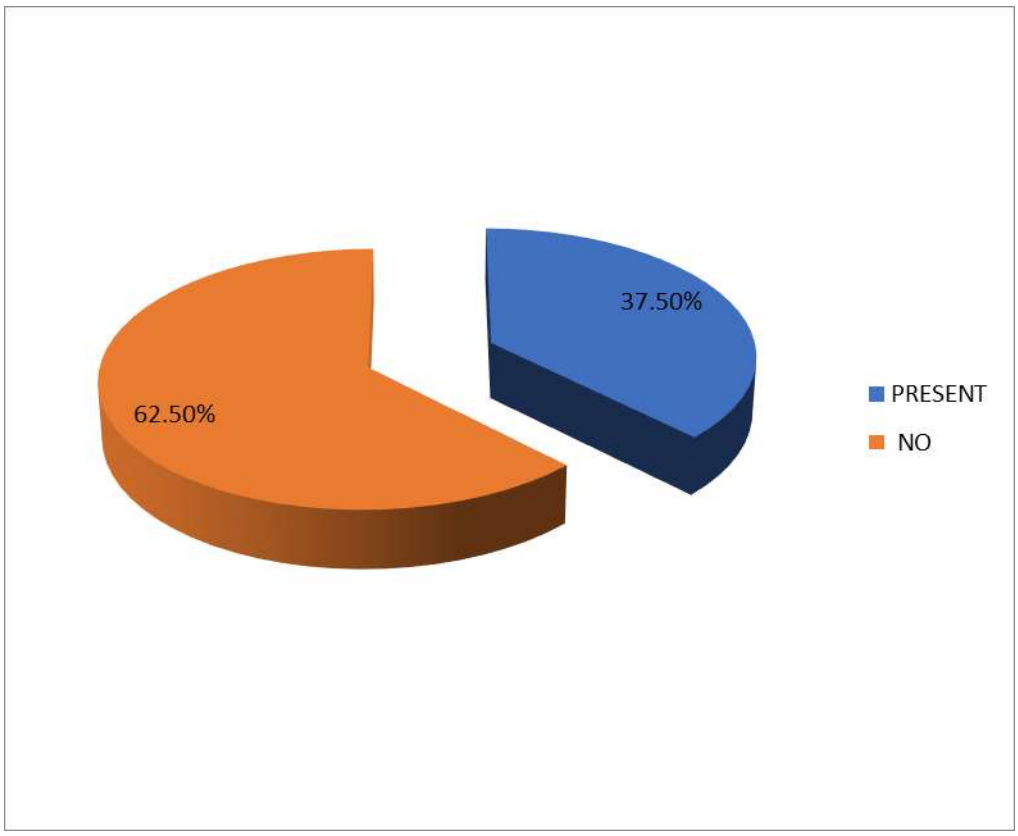

FIGURE 28: NEED FOR CHANGE IN ANTIBIOTICS ACCORDING TO CULTURE SENSTIVITY

TABLE 29: MEAN DURATION OF HOSPITAL STAY

	NEPN		EPN		Total		Z	p-value
	Mean	SD	Mean	SD	Mean	SD		
Duration of hospital stay	15.23	5.32	18.19	7.19	15.75	5.77	-2.168	0.032

Mean duration of hospital stay was 15.75±5.77 days. Amongst NEPN mean duration of hospital stay was 15.23± 5.23 days and in EPN, it was 18.19± 7.19 days. EPN was significantly associated with prolonged hospital stay (P value <0.05).

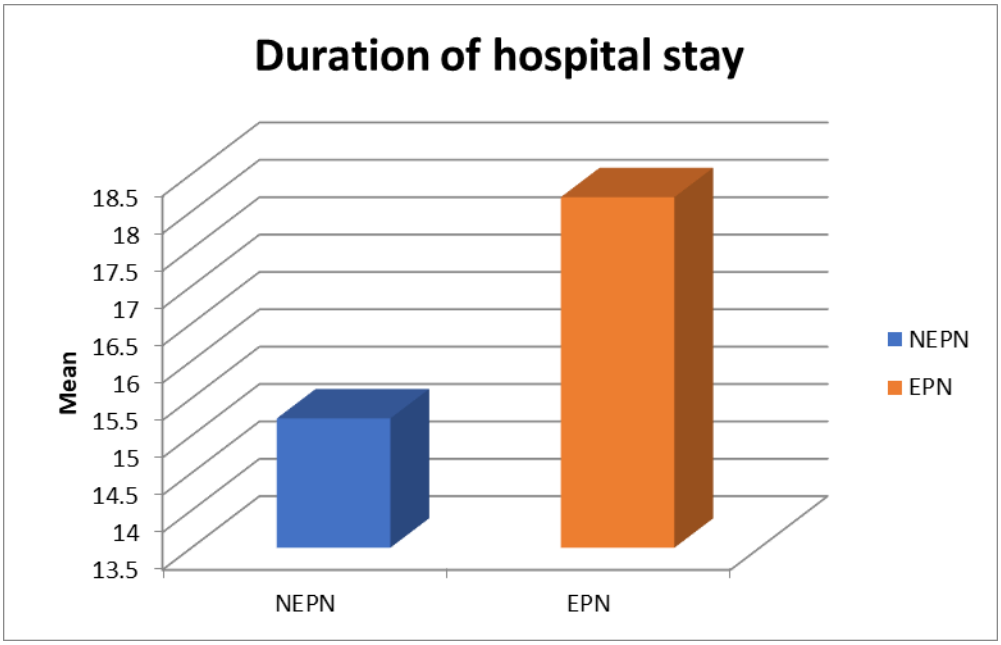

FIGURE 29: MEAN DURATION OF HOSPITAL STAY

TABLE 30: FINAL OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS AFTER 30 DAYS OF FOLLOW UP

	Total		NEPN		EPN		Chi-square value	p-value
	No. of cases	%age	No. of cases	%age	No. of cases	%age		
SURVIVED	109	90.80%	91	91.9%	18	85.71%	0.801	0.371
MORTALITY	6	5.00%	3	3.0%	3	14.29%	4.621	0.066

Out of 120 patients, 95% patients were recovered and 5% patients were expired. Amongst EPN 14.29% patients were expired while in NEPN 3% patients were expired. Thus, mortality rate was higher in EPN patients.

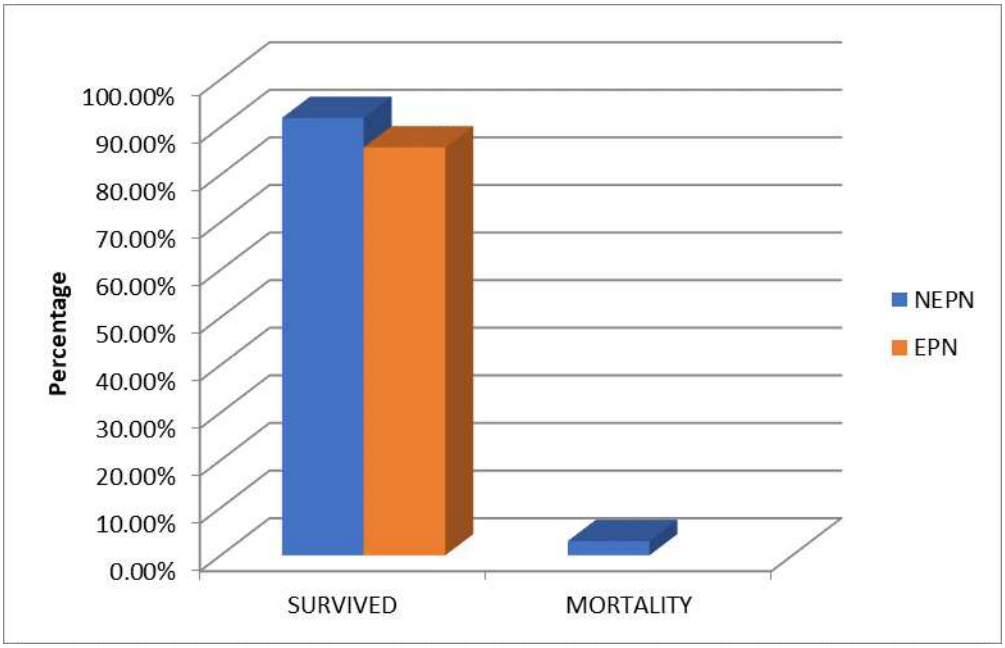

FIGURE 30: FINAL OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS AFTER 30 DAYS OF FOLLOW UP

DISCUSSION

Acute pyelonephritis (APN) is a complicated form of urinary tract infection, the incidence of which has increased in recent times due to the increasing prevalence of diabetes. Its management is challenging at times in view of increasing antibiotic resistance. Effective management of APN requires vivid knowledge of risk factors, clinical characteristics, the nature of organisms isolated in urine and blood cultures, and their current anti microbial sensitivity pattern.

Our aim was to study the clinical presentation, risk factors, pathogenic organisms, and their antibiotic sensitivity pattern in APN. The incidence of acute kidney injury/ acute on chronic kidney disease, and need for renal replacement therapy, respiratory failure needing supplemental oxygen support, multi-organ involvement, surgical interventions needed for management, need for intensive care, overall mortality and hospital stay were studied in detail.

This prospective observational study was conducted over 15 months on 120 patients of acute pyelonephritis diagnosed on basis of clinical features, laboratory and radiological findings. For further detailed comparison, the parameters of patients with emphysematous pyelonephritis (EPN) were compared with APN patients without emphysematous changes (NEPN). In our study, there were 21 patients with EPN and 99 patients in NEPN group.

The mean age of our patients was 58.17±13.28 years. The incidence of acute pyelonephritis was higher in older age group, with the majority of patients belonged to 61 to 70 years age group (26.7%).The predominance of APN in older age is likely to be due to increasing prevalence of diabetes with increasing age. Besides, the overall incidence of UTI increases in old age males due to prostatic diseases and old aged females due to hormonal changes. Similar aged cohorts have been reported in studies by Kumar et al [103] and Umesha et al [104] with mean ages of their patients being 57.4±8.5 years and 53.85±9.78 years respectively. However, there were relatively younger patients in study by Venkatesh et al [105] with a mean age of 48.7 years.

In our study, there were 65.8%male patients and 34.2%female patients. The male preponderance in our study was consistent with the 65.9% and 52% in study by Umesha et al [104] and Buonaiuto et al [64] respectively. Males outnumbered females in Indian studies as compared to western studies probably, due to local gender differences in seeking hospital care.

Fever was the most frequent presenting symptom in our study, occurring in 72.5% of patients, followed by flank pain in 52.5% of cases. Other symptoms were decreased urine output, dysuria and nausea/vomiting in 38.3%, 32.5% and 30% patients respectively. The findings of our study are consistent with study done by Kumar et al [103] in which 93.3% of patients had fever and 68.5% had dysuria. In study by DhamotharanV.M.et al, [105] 94% of patients had fever followed by chills and rigors (80%) and flank pain (69%).

Diabetics are more prone to infection because of diabetic cystopathy, alteration of bacteria-host interaction, defective neutrophil bactericidal activity, impaired phagocytosis and chemotaxis. [106]In our study most common comorbid condition associated with acute pyelonephritis was diabetes mellitus, in 75% cases, followed by hypertension in 48.30%cases, CKD in 30.8% and CAD in 19.2%.Finding in our study were comparable with studies by Venkatesh et al [13] and Dhamotharan V.M.et al [105] where diabetes mellitus was found in 69% and 73% of individuals respectively. Similar results were seen in study by Umesha et al [104] (54.4%).

In our study, 67.5% of patients has HbA1c levels >7.5, with 66.7% of NEPN group and 71.4% of EPN having poor glycaemic control. Findings are consistent with study done by Kumar et al. [103] Geerlings et al [107] in their study suggested that there was increased adherence of E.coli to urothelial cells in females with uncontrolled blood sugar levels leading to ascending infection and hence pyelonephritis.

In our study, urine culture was positive in 59.2% of cases. Culture negativity may be due to the majority patients being referral cases, having received antibiotic outside before presentation to our hospital, besides over the counter use of antibiotics and partially due to

sampling being done after first shots of antibiotics, like in oliguric/anuric patients. Findings are comparable with study by Umesha et al [104] and Dhamotharan V.M.et al [105] in which culture positivity was seen in 48.3% and 51% of cases respectively. However, urine culture yield was high in study by Kumar et al with positivity of 88.5%. The culture yield was relatively low in studies by Rollino et al [108] (23.5%) and Vankateshet al. [13] (24%).

E. coli is the most frequent organism in urine cultures. Usually, E. coli remains harmlessly confined to the intestinal lumen and rarely causes disease. However, in debilitated or immunosuppressed host or when the gastrointestinal barriers are violated, even non-pathogenic commensal strains of E. coli can cause infection. In our study, out of urine culture positive cases, E.coli was isolated in 43.7% cases followed by Candida in 19.7% of patients. Klebsiella was the third most common bacterium that grew on urine culture (18.3%). The most frequently isolated organism in the research by Umesha et al [104] and Kumar et al [103] were also E. coli; positive in 61.5% and 77.1% of culture positive cases respectively followed by Klebsiella in 11.1% and4.7% of cases respectively. However, in a research by Rollino et al. [108] E.coli was the most frequently isolated bacterium in 87.5% of culture positive cases followed by Klebsiella in 6.2%.

In our study, blood culture yielded growth in 26.67% of the patients. In research by Kumar et al [103] blood culture positivity was higher (39%), whereas Rollino et al [108] and Dhamotharan V.M.et al [105] had lower yield of 21.4% and 18% respectively.

Out of blood culture positive cases, E.coli was most common organism isolated in 62.5% cases, followed by klebsiella in 15.63% of cases. Findings in our study were relevant with study done by Rollino et al[108] and DhamotharanV.M.et al [105] in which E.coli was most common organism isolated in 89.7% and 88.9% of blood culture positive patients respectively.

In my study, carbapenems were most common antibiotics started empirically because most of the patients presented from community after receiving multiple doses of antibiotics. Meropenem and

Teicoplanin combination was most commonly empirically used first line drugs in 67.5% of patients followed by Cefoperazone/Sulbactam in 12.50% of patients. In study by Kim B et al, [109] third generation cephalosporins antibiotics were most commonly prescribed antibiotics in 41.4% patients followed by fluoroquinolones in 28.5% patients for IPD. In our study, need for change for antibiotics according to culture sensitivity was required in 37.5% of cases. The emergence of resistant carbapenemase producing Enterobacteriaceae, Pseudomonas-aeruginosa and Acinetobacter baumannii had increased the development of infections that are difficult to treat and associated with significant morbidity and mortality. Colistin and Tigecycline can be used in resistant ones. Several other combinations like Ceftazidime-avibactam, Ceftolozane-tazobactam, Meropenem-vaborbactam and Imipenem-cilastatin-relebactam can be used according to guidelines. [110]

In our study, it was observed that Colistin and Polymyxin B were sensitive to most of the organisms causing APN in 100% cases. This was followed by Meropenem in 83% cases, Imipenem in 79.2% cases and Ertapenem in 71.2% cases. Increasing level of resistance was seen in antibiotics like piperacillin/tazobactam and nitrofurantoin in 68.6% and 34.7% cases respectively. Etienne M et al [111] reported that amongst antibiotics used in their study, imipenem had 99% sensitivity for enterobacteria followed by amikacin (96%). A high rate of resistance was recorded amongst amoxicillin (50%) and amoxicillin/clavulanic acid (35%). Piperacillin/tazobactam resistance was seen in 12% of Enterobacteria.

In our study, 29.2% patients had left side APN, 23.3 % patients had right side APN and 26.7% patients had B/L APN. Patients with EPN had a left-sided involvement in 8.3%, a right-sided involvement in 7.5%, and B/L EPN in 1.7%. Papillary necrosis was seen in 2.5% of patients, whereas renal abscess was found in 5.8% of patients. According to Vankatesh et al [13] study, based on CT findings; 33% of patients had unilateral APN, 30% had bilateral APN, 3% had renal abscesses, and 4% had EPN. In study by Kumar et al, [103] left sided

APN was observed in 29.5% of cases, right sided APN in 16.1% and 29.5% had bilateral APN. Out of their EPN patients, 12.3% had right-sided EPN, while 8.5% had left-sided EPN.

Emphysematous pyelonephritis is a severe, necrotising renal infection with high morbidity and mortality. In this study there is no statistically significant differences in presenting clinical features between EPN and NEPN. The diagnosis of EPN was made on imaging studies usually on CT. 17.5% of the acute pyelonephritis cases in our study had EPN. 24.7% of participants in Kumar et al's [103] study had EPN. In study done by Vankatesh et al [13] and Umesha et al, [104] EPN was seen in 4% and 2% of patients respectively.

Out the 21 EPN patients in our study, majority patients (38.1%) had Huang and Tseng Class II EPN, followed by class 3A in 23.8% cases. Class 1 and 3BEPN was encountered in three patients each. 9.5% of patients had class 4 disease. In the study by Umesha et al, [104] out of 12 patients having EPN, 50% patients have class 2, 33.3% cases have class 3, 8.3%cases had class 1 and class 4 each. In the study done by S. Kumar et al, [103] Class 1 and class 2 EPN were observed in two patients, eight patients had class 2, seven patients in class 3A, five patients in class 3B, and four patients in class 4.

In our study, leukocytosis was seen in 70% of patients and thrombocytopenia was present in 32.5% of cases. Findings were comparable with study by Vankatesh et al, [13] in which leucocytosis was present in 68% cases and thrombocytopenia was present in16% cases. In study done by Umesha et al, [104] 80% of patients had leucocytosis.

In our study 56.7% of patients required surgical/ radiological intervention amongst which 31.7% of patients required DJ stenting, 15.8% of patients required PCN, 12.5% of patients require PCD. Nephrectomy was done in one patient (0.8%) and that patient belonged to EPN group.

In general DJ stenting is preferred over PCD/PCN in majority of cases although complications are more with DJ stenting because according to intraoperative data, operative time and fluoroscopy duration were

significantly shorter in the DJ ureteral stent group. [112] Total 13 patients in study done by Vankatesh et al [13] required surgical/ radiological intervention, among which 12 patients require DJ stenting and 1 patient require PCD. In a study done by Dhamotharan V.M. et al, [105] 47% of patients require surgical/ radiological intervention and most common intervention done was DJ stenting.

In our study, 36.7% of patient presented in shock or developed shock during hospital stay and had need of vasopressor support. 36.4% cases of NEPN and 38.1% EPN patients require vasopressor support. In the study by Kumar et al 4.7% patients developed shock, all of which had EPN. Whereas in the study by Vankatesh et al [13] only 7% of patients developed shock. The high percentage of patients with shock can be explained as late presentation of patients to our tertiary care hospital. In our study, 22.5% of patients required ICU care and 10.8% patients required mechanical ventilation. Results were comparable with study done by Umesha et al [104] in which 30% patients needed ICU care.

Acute pyelonephritis can lead to deterioration of renal function due to sepsis, shock and MODS. These patients might require renal replacement therapy in the form of haemodialysis, CRRT or peritoneal dialysis according to condition of patient. 34.2% of individuals in our study needed renal replacement therapy. Findings were consistent with study conducted by Umesha et al, [104] where 35.4% of patients required renal replacement therapy. But lower percentage (17.1%) of patients in Kumar et al [103] study required renal replacement therapy.

MODS remains a leading cause of morbidity and mortality. The pathophysiology of MODS is dynamic and might be directly associated with the excessive pro-inflammatory responses after sepsis. In our study 9.2% of patient developed multiorgan failure in the form of hepatic, renal and respiratory failure. The incidence of MODS was more in EPN (19.05%) as compared to NEPN (7.1%) group. In study done by Kumar et al, [103] out of 105, 5 patients developed MODS and all were EPN. MODS developed in 31.8% patients in Umesha et al [104] study.

In our study, mean duration of hospital stay was 15.75±5.77days, relatively higher than in study by Rollino et al [108] (11 days) and Venkatesh et al [13] (6.8 days).

In our study, overall mortality was 5%, with relatively higher mortality in EPN patients (14.3%) than NEPN patients (3.0%). Similarly in the study by Umesha et al, [104] the overall mortality was 6.08%, with higher relative mortality in their EPN patients (33.3%) versus 4.9% in NEPN. However, in the study by Kumar et al [103] mortality was higher (12.3%) than our study.

SUMMARY AND CONCLUSION

- This study was conducted over 15 months from 1st March 2021 to 31st May 2022 including follow up in patients of acute pyelonephritis admitted to Dayanand medical college and hospital, Ludhiana.
- A total of 120 patients who met the inclusion criteria were enrolled in the study.
- Data containing the demographic character, clinical features, risk factors, antibiogram and need for surgical/ radiological intervention was compiled and analysed.
- Patients were divided into EPN (21) and NEPN (99) group.
- Acute pyelonephritis was most commonly found in 61-70 years age group.
- Male preponderance was seen constituting 65.8% of cases.
- Fever was the most common presenting complaint in 72.5% of patients and Diabetes mellitus was the most common risk factor associated with APN seen in 75% of cases.
- Among urine culture positive cases, E.coli was the most common organism detected in 43.7% of cases.
- Among blood culture positive cases, E.coli was the most common organism detected in 62.5% of cases.
- Radiological/surgical intervention was required in 56.7% of cases. The most common intervention done was DJ stenting.
- Antibiotics like Piperacillin/Tazobactam and Cefoperazone/ Sulbactam which were initially used as first line agent were found to have developed resistance.
- Most common organisms causing APN were highly sensitive to Carbapenems.
- Carbapenems were most commonly used first line agents because patient presented from community settings after receiving multiple doses of antibiotics.

- Mean duration of hospital stay was15.75±5.77 days. EPN was significantly associated with prolonged hospital stay (P value <0.05).
- Mortality rate was higher in case of EPN as compared to NEPN.
- We did not observe any correlation between the risk factors, renal dysfunction and sepsis with mortality in view of low mortality rates and small sample size.

CONCLUSION: Acute pyelonephritis (APN) is bacterial or fungal infection of the renal parenchyma and collecting system. The diagnosis of APN is based on the combination of clinical, laboratory and radiological findings. Fever was the most common presenting complaint and diabetes mellitus was the most common risk factor associated with APN. Male preponderance was seen. Radiological or surgical intervention was done according to the case scenario. E.coli was the most common organism isolated in urine and blood cultures. Most common organisms causing APN were highly sensitive to Carbapenems. The need for oxygen support, multi organ dysfunction and mortality was more commonly seen in EPN patients as compared to NEPN.

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Sr. No	MRD NO.	NAME	DOA	AGE	AGE GROUP	GENDER	CHIEF COMPLAINTS FEVER	FLANK/ ABDOMINAL PAIN	BURNING/ PAINFUL MICTURATION	NAUSEA/ VOMITING	DECREASE URINE OUTPUT	ALTERED SENSORIUM	OTHERS	PAST HISTORY DIABETES	HYPER TENSION	CKD	CAD	OTHERS	ALCOHOLIC	SMOKER	OTHER
1	877945	KS	16.11.2021	58	3	M	YES	NO	YES	YES	NO	NO	NO	YES	YES	NO	YES	HYPOTHYROID	NO	NO	NO
2	1137151	SS	04.06.2021	51	3	M	NO	NO	NO	NO	YES	NO	PEDAL EDEMA	YES	YES	YES	NO	RENAL STONES	NO	NO	NO
3	730414	SK	19.04.2021	45	2	M	YES	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	SEIZURE DISORDER	NO	NO	NO
4	1206753	HS	2.3.2022	62	4	M	NO	NO	NO	YES	YES	NO	NO	YES	NO	YES	NO	CVA	NO	NO	NO
5	1044183	HR	8.3.2021	81	6	M	NO	NO	NO	YES	NO	YES	NO	YES	YES	YES	YES	NO	NO	NO	NO
6	1044139	SS	7.3.2021	60	3	M	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	OPIOD ADDICT
7	935435	HD	21.12.2021	50	2	F	NO	YES	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO
8	1118349	JS	12.05.2021	38	1	M	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
9	1271662	BS	17.03.2022	62	4	M	YES	YES	NO	YES	YES	NO	LOOSE STOOLS	YES	NO	NO	NO	NO	NO	NO	OPIOD ADDICT
10	1295666	SB	29.4.2022	68	4	M	NO	NO	YES	NO	NO	NO	NO	YES	NO	YES	YES	POST RENAL TRANSPLANT	NO	NO	NO
11	1277829	MK	28.03.2022	65	4	F	YES	YES	NO	YES	NO	NO	NO	YES	YES	NO	YES	HYPOTHYROID	NO	NO	NO
12	1281201	RS	2.04.2022	43	2	M	YES	YES	NO	NO	NO	NO	NO	YES	NO	NO	NO	PULMONARY TUBERCULOSIS	NO	NO	NO
13	1280073	VS	31.03.2022	49	2	M	YES	YES	YES	NO	NO	NO	NO	YES	YES	NO	YES	HYPOTHYROID	NO	NO	NO
14	1133809	KL	01.04.2022	69	4	M	YES	NO	YES	NO	NO	NO	NO	YES	YES	YES	NO	SEIZURE DISORDER	YES	NO	NO
15	1283518	SK	06.04.2022	57	3	M	YES	NO	NO	NO	YES	NO	NO	YES	YES	NO	YES	HYPOTHYROID	NO	NO	NO
16	1286829	BK	12.04.2022	65	4	F	NO	YES	NO	NO	NO	NO	LOOSE STOOLS	YES	YES	NO	NO	NO	NO	NO	NO
17	1032971	VK	27.01.2022	56	3	M	YES	NO	NO	NO	YES	NO	SHORTNESS OF BREATH	YES	YES	NO	NO	NO	YES	NO	NO
18	1191338	SK	14.10.2022	46	2	M	YES	NO	YES	NO	YES	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO
19	254921	GS	06.02.2022	56	3	M	YES	YES	NO	NO	NO	NO	SHORTNESS OF BREATH	YES	YES	NO	NO	NO	YES	NO	NO
20	118097	AK	25.09.2021	78	5	M	YES	YES	YES	NO	NO	NO	NO	NO	YES	NO	YES	NO	NO	NO	NO
21	1196871	KS	26.10.2021	50	2	M	YES	NO	NO	NO	NO	NO	PEDAL EDEMA	NO	YES	NO	NO	NO	YES	NO	OPIOD ADDICT
22	1270439	BKS	10.06.2021	75	5	M	YES	YES	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO	NO	YES	NO
23	1126635	VS	23.06.2021	47	2	M	YES	YES	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO
24	1056552	CD	19.03.2021	70	4	M	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
25	27034	SJ	10.09.2021	72	5	F	YES	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	RHEUMATOID ARTHRITIS	NO	NO	NO
26	1216377	SC	08.02.2022	58	3	M	NO	YES	YES	NO	NO	NO	SHORTNESS OF BREATH	YES	NO	YES	NO	COPD	NO	YES	NO
27	761109	JK	06.01.2022	77	5	F	NO	YES	YES	NO	NO	NO	NO	YES	YES	YES	YES	NO	NO	NO	NO
28	1146315	BS	01.08.2022	62	4	F	NO	YES	NO	NO	NO	YES	NO	YES	NO	NO	YES	NO	NO	NO	NO
29	560351	VD	11.12.2021	73	5	F	YES	YES	NO	NO	NO	NO	NO	YES	YES	YES	NO	NO	NO	NO	NO
30	1241065	BS	30.03.2022	35	1	M	YES	YES	NO	NO	NO	YES	NO	YES	NO	NO	NO	NO	YES	NO	NO
31	1254313	SD	17.02.2022	65	4	F	NO	YES	NO	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO
32	1264150	MK	05.03.2022	33	1	F	NO	YES	NO	NO	NO	NO	NO	YES	YES	NO	NO	HYPOTHYROID	NO	NO	NO
33	1239996	GS	01.02.2022	65	4	M	YES	NO	YES	NO	NO	NO	NO	YES	NO	YES	NO	RENAL STONES	YES	NO	NO
34	1237859	AK	12.01.2022	58	3	F	YES	YES	NO	YES	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO
35	1057175	HRC	10.03.2021	78	5	M	YES	NO	NO	YES	NO	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO
36	1307338	SS	20.04.2022	56	3	M	YES	YES	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO
37	1305971	SH	18.5.2022	70	4	M	YES	YES	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
38	692675	BS	20.05.2021	66	4	M	NO	NO	YES	NO	NO	NO	NO	YES	NO	YES	NO	NO	YES	NO	NO
39	1301867	SS	12.03.2022	50	2	M	YES	NO	NO	NO	NO	NO	NO	YES	NO	YES	NO	CLD	NO	NO	NO
40	1114661	PJ	01.06.2022	58	3	F	NO	YES	NO	NO	YES	NO	SHORTNESS OF BREATH	YES	NO	NO	YES	NO	NO	NO	NO
41	877946	KS	11.03.2022	58	3	M	YES	NO	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO	YES	NO	NO
42	1260749	JS	12.10.2021	65	4	M	NO	YES	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
43	1217344	HRS	16.03.2022	65	4	M	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO
44	1171633	JR	11.09.2021	58	3	F	NO	NO	YES	NO	NO	NO	NO	YES	NO	YES	YES	NO	NO	NO	NO
45	1154941	BS	16.08.2021	52	3	M	NO	NO	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO	YES	NO	NO
46	1114931	SR	29.05.2021	70	4	F	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO	NO	CVA	NO	NO	NO
47	1156334	PM	17.08.2021	68	4	F	YES	NO	NO	NO	YES	NO	NO	YES	YES	NO	NO	CARCINOMA CERVIX	NO	NO	NO
48	1262068	BS	01.03.2022	65	4	M	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	RENAL STONES	YES	NO	OPIOD ADDICT
49	1195137	SUNITA	21.10.2021	47	2	F	NO	YES	NO	YES	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO
50	1249660	KS	07.06.2021	68	4	M	YES	NO	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO	NO	NO	OPIOD ADDICT
51	1283082	LK	06.04.2022	62	4	F	YES	YES	NO	NO	NO	NO	NO	YES	NO	YES	NO	NO	NO	NO	NO
52	1288277	SALONI	15.04.2022	38	1	F	YES	YES	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
53	1288236	NR	15.04.2022	47	2	F	YES	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
54	1250154	MS	07.02.2022	75	5	M	YES	NO	NO	NO	YES	NO	NO	YES	NO	YES	NO	NO	NO	NO	OPIOD ADDICT
55	1249527	RK	06.02.2022	55	3	F	NO	NO	NO	NO	NO	YES	NO	YES	NO	YES	NO	NO	NO	NO	NO
56	1186127	ID	26.02.2022	58	3	M	YES	YES	NO	YES	YES	NO	NO	YES	NO	NO	NO	COPD	YES	YES	NO
57	1144420	SK	28.07.2021	56	3	F	YES	YES	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
58	1142409	SK	24.07.2021	59	3	F	YES	YES	NO	YES	NO	NO	NO	YES	YES	YES	NO	RENAL STONES	NO	NO	NO
59	1270370	GK	15.03.2022	72	5	M	YES	YES	NO	YES	NO	NO	NO	YES	NO	YES	NO	NO	NO	NO	NO
60	1261314	SS	28.03.2022	64	4	M	YES	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	RENAL STONES	YES	NO	NO

Sr. No	MRD NO.	Past urological intervention	PAST MEDICATION HISTORY ACE INHIBITORS	ARBs	NSAIDS	History of intake of Ayurvedic medication/ Homeopathic medication/ Self medication	SBP	DBP	Pulse	Temperature	FEVER	Respiratory rate	Pallor	Icterus	Pedal edema	LAP	JVP	Clubbing	Cyanosis	Oxygen saturation	Per abdomen	CNS
1	877945	YES	YES	NO	NO	NO	120	80	92	101 F	2	16	NO	NO	NO	NO	RAISED	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
2	1137151	NO	NO	YES	NO	YES	120	80	76	AFEBRILE	1	14	YES	NO	YES	NO	RAISED	NO	NO	98% RA	NAD	NAD
3	730414	YES	NO	NO	NO	NO	120	80	88	100 F	1	20	NO	NO	NO	NO	NO	NO	NO	98% BINASAL	LEFT FLANK TENDERNESS	NAD
4	1206753	NO	NO	NO	NO	YES	100	70	86	AFEBRILE	1	16	NO	NO	YES	NO	NO	NO	NO	98% BINASAL	LEFT FLANK TENDERNESS	NAD
5	1044183	NO	NO	YES	NO	NO	100	70	102	AFEBRILE	1	22	NO	NO	YES	NO	RAISED	NO	NO	98% BINASAL	LEFT FLANK TENDERNESS	NOT ORIENTED
6	1044139	NO	NO	NO	N0	NO	90	60	94	AFEBRILE	1	20	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
7	935435	NO	NO	NO	NO	NO	130	90	83	AFEBRILE	1	16	YES	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
8	1118349	NO	NO	NO	NO	NO	90	60	87	101 F	2	22	NO	YES	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
9	1271662	NO	NO	NO	NO	NO	90	60	113	103 F	3	24	NO	NO	NO	NO	NO	NO	NO	96% NRBM	LEFT FLANK TENDERNESS	NAD
10	1295666	NO	NO	NO	NO	NO	120	80	87	AFEBRILE	1	18	NO	NO	YES	NO	RAISED	NO	NO	98 % RA	NAD	NAD
11	1277829	NO	NO	NO	NO	NO	80	60	98	102 F	2	16	NO	NO	YES	NO	RAISED	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
12	1281201	YES	NO	NO	NO	NO	120	80	87	104 F	3	18	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
13	1280073	NO	YES	NO	NO	NO	120	80	88	101 F	2	24	NO	NO	NO	NO	RAISED	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
14	1133809	YES	NO	NO	NO	YES	100	60	93	102 F	2	18	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
15	1283518	YES	NO	NO	NO	NO	90	60	112	100 F	1	22	YES	NO	YES	NO	RAISED	NO	NO	98% MV	NAD	NAD
16	1286829	NO	NO	NO	NO	NO	120	60	84	AFEBRILE	1	18	NO	NO	NO	NO	NO	NO	NO	98% VENTURY	B/L FLANKS TENDERNESS	NAD
17	1032971	NO	NO	NO	NO	NO	120	80	98	101 F	2	18	NO	NO	NO	NO	NO	NO	NO	98% RA	NAD	NAD
18	1191338	NO	NO	NO	NO	NO	120	80	76	102 F	2	16	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
19	254921	NO	NO	YES	NO	NO	120	80	86	104 F	3	24	NO	NO	NO	NO	NO	NO	NO	98 % BINASAL	RIGHT FLANK TENDERNESS	NAD
20	118097	NO	YES	NO	NO	NO	120	80	92	100 F	1	14	NO	NO	NO	NO	RAISED	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
21	1196871	NO	NO	NO	NO	YES	120	80	87	100 F	1	18	NO	NO	YES	NO	NO	NO	NO	98% RA	NAD	NAD
22	1270439	YES	NO	NO	NO	NO	120	80	64	102F	2	18	NO	YES	NO	NO	RAISED	YES	NO	98% RA	LEFT FLANK TENDERNESS	NAD
23	1126635	YES	NO	NO	NO	NO	120	80	87	103 F	3	20	NO	NO	YES	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
24	1056552	NO	NO	NO	YES	NO	90	60	100	99 F	1	22	YES	NO	NO	NO	NO	NO	NO	98 % BINASAL	B/L FLANKS TENDERNESS	NAD
25	27034	NO	NO	NO	NO	NO	90	60	98	99F	1	18	NO	NO	NO	NO	NO	NO	NO	98 % BINASAL	B/L FLANKS TENDERNESS	NAD
26	1216377	NO	NO	NO	NO	YES	80	60	76	AFEBRILE	1	16	YES	NO	YES	NO	NO	NO	NO	98 % BINASAL	RIGHT FLANK TENDERNESS	NAD
27	761109	NO	YES	NO	NO	YES	130	90	98	AFEBRILE	1	20	NO	NO	YES	NO	RAISED	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
28	1146315	NO	NO	NO	NO	NO	120	80	74	AFEBRILE	1	18	YES	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NOT ORIENTED
29	560351	NO	NO	NO	NO	NO	90	60	100	102 F	2	22	YES	NO	YES	NO	NO	NO	NO	98% VENTURY	RIGHT FLANK TENDERNESS	NAD
30	1241065	NO	NO	NO	NO	YES	90	60	88	101 F	2	20	NO	NO	NO	NO	NO	NO	NO	98% MV	LEFT FLANK TENDERNESS	NOT ORIENTED
31	1254313	NO	NO	NO	NO	NO	120	80	78	AFEBRILE	1	18	NO	NO	NO	NO	RAISED	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
32	1264150	NO	YES	NO	YES	NO	120	80	86	AFEBRILE	1	16	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
33	1239996	NO	NO	YES	NO	YES	120	80	80	102 F	2	18	YES	NO	YES	NO	NO	NO	NO	98% RA	NAD	NAD
34	1237859	NO	YES	NO	NO	NO	120	80	88	101 F	2	20	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
35	1057175	NO	NO	NO	YES	YES	80	60	100	104 F	3	22	NO	NO	NO	NO	NO	NO	NO	98% NIV	NAD	NAD
36	1307338	NO	NO	NO	NO	NO	120	80	102	102 F	2	22	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
37	1305971	NO	NO	NO	NO	NO	120	80	88	104 F	3	20	NO	NO	YES	NO	NO	NO	NO	98% RA	NAD	NAD
38	692675	NO	NO	NO	NO	NO	120	80	78	AFEBRILE	1	18	NO	NO	YES	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
39	1301867	NO	NO	NO	NO	NO	120	80	80	101 F	2	18	NO	NO	NO	NO	NO	NO	NO	98% RA	NAD	NAD
40	1114661	NO	YES	NO	NO	NO	120	80	84	AFEBRILE	1	20	NO	NO	NO	NO	RAISED	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
41	877946	YES	NO	YES	NO	YES	90	60	88	100 F	1	16	NO	NO	YES	NO	RAISED	YES	NO	98% BINASAL	LEFT FLANK TENDERNESS	NAD
42	1260749	NO	NO	NO	NO	NO	120	80	76	AFEBRILE	1	18	NO	NO	YES	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
43	1217344	NO	NO	NO	YES	NO	90	60	78	AFEBRILE	1	18	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
44	1171633	NO	YES	NO	NO	NO	120	80	88	AFEBRILE	1	16	NO	NO	NO	NO	RAISED	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
45	1154941	NO	NO	NO	NO	YES	120	80	90	AFEBRILE	1	20	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NOT ORIENTED
46	1114931	NO	NO	NO	NO	NO	90	60	100	AFEBRILE	1	22	NO	NO	NO	NO	NO	NO	NO	98% BINASAL	NAD	NOT ORIENTED
47	1156334	YES	YES	NO	NO	NO	120	80	90	101 F	2	16	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
48	1262068	NO	NO	NO	YES	YES	120	80	88	102 F	2	16	NO	NO	YES	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
49	1195137	NO	NO	NO	NO	NO	90	60	120	AFEBRILE	1	18	YES	NO	NO	NO	NO	NO	NO	98% VENTURY	RIGHT FLANK TENDERNESS	NAD
50	1249660	YES	NO	NO	NO	NO	80	60	100	101 F	2	18	NO	NO	NO	NO	RAISED	NO	NO	98% BINASAL	RIGHT FLANK TENDERNESS	NAD
51	1283082	NO	NO	NO	NO	NO	120	80	88	104 F	3	18	NO	NO	YES	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
52	1288277	NO	NO	NO	NO	NO	120	80	76	99 F	1	18	NO	NO	NO	NO	NO	NO	NO	98% BINASAL	RIGHT FLANK TENDERNESS	NAD
53	1288236	NO	NO	NO	YES	NO	120	80	88	102 F	2	22	NO	NO	NO	NO	NO	YES	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
54	1250154	NO	NO	NO	NO	NO	90	60	104	100 F	1	22	NO	NO	NO	NO	NO	NO	NO	98% VENTURY	LEFT FLANK TENDERNESS	NAD
55	1249527	NO	YES	NO	NO	NO	80	60	110	AFEBRILE	1	20	NO	NO	NO	NO	NO	NO	NO	98% VENTURY	LEFT FLANK TENDERNESS	NOT ORIENTED
56	1186127	NO	NO	NO	NO	NO	120	80	78	100 F	1	18	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
57	1144420	NO	NO	NO	NO	NO	110	70	76	101 F	2	18	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
58	1142409	NO	NO	NO	NO	NO	120	80	87	100 F	1	20	NO	NO	YES	NO	NO	NO	NO	98% BINASAL	RIGHT FLANK TENDERNESS	NAD
59	1270370	NO	NO	NO	YES	NO	120	80	86	99 F	1	14	NO	NO	YES	NO	NO	NO	NO	98% BINASAL	LEFT FLANK TENDERNESS	NAD
60	1261314	NO	NO	NO	NO	NO	120	80	78	99F	1	22	NO	NO	NO	NO	NO	NO	NO	98% BINASAL	B/L FLANKS TENDERNESS	NAD

Sr. No	MRD NO.	respiratory system	CVS	Urine routine examination	protienuria	glucosuria	pus cells	RBCs	URINE/DRAIN CULTURE	MEROPENEM	IMEPENAM	ERTAPENAM	COLISTI/POLY MYXIN B	PIPERACILLIN/TAZOBACTEM	NITROFURANTOIN	CEFAPERAZONE/SULBACTAM	TIGICYCLINE	TEICOPLANIN	VANCOMYCIN	LINIZOLID
1	877945	B/L CREPITATIONS	NAD	-	3+	2+	30	5	E.COLI	S	S	S	S	R	S	S	-	-	-	-
2	1137151	B/L CREPITATIONS	NAD	-	3+	1+	80	NIL	E.COLI	S	S	S	S	R	S	S	-	-	-	-
3	730414	NAD	NAD	-	1+	2+	70	30	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
4	1206753	NAD	NAD	-	2+	1+	30	NIL	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
5	1044183	B/L CREPITATIONS	NAD	-	1+	NO	NIL	NIL	CITROBACTER	S	S	S	S	S	S	S	-	-	-	-
6	1044139	NAD	NAD	-	2+	1+	30	20	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
7	935435	NAD	NAD	-	2+	1+	20	10	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
8	1118349	NAD	NAD	-	NO	NO	40	40	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
9	1271662	NAD	NAD	-	2+	TRACE	8	55	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
10	1295666	B/L CREPITATIONS	NAD	-	3+	NO	25	70	KLEBSIELLA	S	S	R	S	-	R	S	-	-	-	-
11	1277829	B/L CREPITATIONS	NAD	-	NO	NO	65	NIL	E.COLI	S	S	S	S	S	S	S	-	-	-	-
12	1281201	NAD	NAD	-	2+	1+	100	NIL	KLEBSIELLA	R	R	R	S	R	R	R	-	-	-	-
13	1280073	B/L CREPITATIONS	NAD	-	TRACES	1+	40	NIL	E.COLI	S	S	-	S	-	R	S	-	-	-	-
14	1133809	NAD	NAD	-	2+	NO	100	20	KLEBSIELLA	S	S	R	S	R	R	S	-	-	-	-
15	1283518	B/L CREPITATIONS	NAD	-	2+	NO	30	20	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
16	1286829	NAD	NAD	-	2+	1+	30	NIL	E.COLI	S	S	S	S	S	S	S	-	-	-	-
17	1032971	NAD	NAD	-	2+	NO	10	10	E.COLI	S	S	S	S	R	S	S	-	-	-	-
18	1191338	NAD	NAD	-	3+	NO	20	10	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
19	254921	NAD	NAD	-	NO	NO	12	NIL	E.COLI	S	S	S	S	R	S	S	-	-	-	-
20	118097	B/L CREPITATIONS	NAD	-	TRACES	NO	12	20	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
21	1196871	NAD	NAD	-	1+	NO	30	NIL	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
22	1270439	B/L CREPITATIONS	NAD	-	TRACES	NO	40	NIL	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
23	1126635	NAD	NAD	-	TRACES	NO	10	50	PSEUDOMONAS	S	S	S	S	R	S	S	-	-	-	-
24	1056552	NAD	NAD	-	1+	NO	15	20	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
25	27034	NAD	NAD	-	3+	NO	14	4	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
26	1216377	NAD	NAD	-	1+	1+	30	25	E.COLI	S	R	R	S	R	S	S	-	-	-	-
27	761109	B/L CREPITATIONS	NAD	-	2+	1+	15	4	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
28	1146315	NAD	NAD	-	3+	2+	30	8	E.COLI	S	S	S	S	S	S	S	-	-	-	-
29	560351	NAD	NAD	-	2+	1+	100	3	KLEBSIELLA	R	R	R	S	R	R	R	-	-	-	-
30	1241065	NAD	NAD	-	1+	3+	20	3	ENTEROCOCCUS FAECALIS	-	-	-	-	-	-	-	-	S	S	-
31	1254313	B/L CREPITATIONS	NAD	-	NO	3+	70	NIL	E.COLI	S	S	S	S	S	S	S	-	-	-	-
32	1264150	NAD	NAD	-	1+	2+	15	3	E.COLI	S	R	R	S	R	R	R	-	-	-	-
33	1239996	NAD	NAD	-	3+	NO	65	25	KLEBSIELLA	R	R	R	S	R	R	R	-	-	-	-
34	1237859	NAD	NAD	-	TRACES	NO	16	4	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
35	1057175	NAD	NAD	-	1+	NO	8	15	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
36	1307338	NAD	NAD	-	1+	NO	90	20	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
37	1305971	NAD	NAD	-	2+	NO	30	20	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
38	692675	NAD	NAD	-	TRACES	NO	60	12	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
39	1301867	NAD	NAD	-	2+	NO	35	4	ENTEROCOCCUS FAECALIS	-	-	-	-	-	-	-	-	S	S	-
40	1114661	B/L CREPITATIONS	NAD	-	TRACES	3+	30	8	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
41	877946	B/L CREPITATIONS	NAD	-	2+	NO	30	5	E.COLI	S	S	S	S	R	S	S	-	-	-	-
42	1260749	NAD	NAD	-	NO	NO	3	NIL	PSEUDOMONAS	S	S	S	S	R	S	S	-	-	-	-
43	1217344	NAD	NAD	-	3+	NO	10	90	E.COLI	S	S	S	S	R	R	S	-	-	-	-
44	1171633	B/L CREPITATIONS	NAD	-	2+	1+	45	NIL	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
45	1154941	NAD	NAD	-	TRACES	NO	15	8	PSEUDOMONAS	S	S	S	S	S	S	S	-	-	-	-
46	1114931	NAD	NAD	-	3+	2+	70	15	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
47	1156334	NAD	NAD	-	2+	1+	50	4	PSEUDOMONAS	S	S	R	S	R	R	R	-	-	-	-
48	1262068	NAD	NAD	-	2+	NO	25	6	E.COLI	S	S	S	S	R	S	S	-	-	-	-
49	1195137	NAD	NAD	-	3+	NO	20	NIL	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
50	1249660	B/L CREPITATIONS	NAD	-	3+	NO	100	10	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
51	1283082	NAD	NAD	-	1+	NO	65	12	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
52	1288277	NAD	NAD	-	1+	3+	20	3	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
53	1288236	NAD	NAD	-	1+	NO	40	10	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
54	1250154	NAD	NAD	-	2+	2+	60	10	PSEUDOMONAS	S	S	S	S	R	R	R	-	-	-	-
55	1249527	NAD	NAD	-	2+	NO	15	12	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
56	1186127	NAD	NAD	-	1+	TRACE	52	20	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
57	1144420	NAD	NAD	-	3+	NO	10	4	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
58	1142409	NAD	NAD	-	TRACES	2+	45	40	E.COLI	S	S	S	S	S	S	S	-	-	-	-
59	1270370	NAD	NAD	-	1+	3+	8	NIL	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
60	1261314	NAD	NAD	-	TRACES	NO	15	NIL	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-

Sr. No	MRD NO.	AMIKACIN	GENTAMYCIN	FLUCONAZIOLE	VORICONAZOLE	ANIDULAFUNGIN	AMPHO-B	MICAFUNGIN	BLOOD CULTURE	MEROPENEM	IMEPENAM	ERTAPENAM	COLISTI/POLY MYXIN B	PIPERACILLIN/ TAZOBACTEM	NITROFURANT OIN	CEFAPERAZONE/S ULBACTAM	TIGICYCLINE	AMIKACIN
1	877945	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
2	1137151	S	S	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
3	730414	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
4	1206753	-	-	S	S	S	S	R	NO GROWTH	-	-	-	-	-	-	-	-	-
5	1044183	S	S	-	-	-	-	-	CITROBACTER	S	S	S	S	S	S	S	-	S
6	1044139	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
7	935435	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
8	1118349	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
9	1271662	-	-	-	-	-	-	-	E.COLI	S	S	S	S	S	S	S	-	S
10	1295666	S	S	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
11	1277829	S	S	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
12	1281201	S	S	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
13	1280073	S	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
14	1133809	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
15	1283518	-	-	R	R	S	S	S	ACIENECTOBACTOR	R	R	R	S	R	R	R	-	S
16	1286829	S	S	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
17	1032971	S	-	-	-	-	-	-	E.COLI	S	S	S	S	S	S	S	-	-
18	1191338	-	-	S	S	S	S	-	NO GROWTH	-	-	-	-	-	-	-	-	-
19	254921	S	R	-	-	-	-	-	E.COLI	S	S	S	S	S	S	S	-	S
20	118097	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
21	1196871	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
22	1270439	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
23	1126635	R	R	-	-	-	-	-	PSEUDOMONAS	R	R	R	S	R	S	S	-	S
24	1056552	-	-	R	S	S	S	S	E.COLI	S	S	S	S	S	S	S	-	S
25	27034	-	-	-	-	-	-	-	E.COLI	S	S	S	S	R	S	S	-	S
26	1216377	R	S	-	-	-	-	-	E.COLI	R	R	R	R	R	R	R	-	R
27	761109	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
28	1146315	S	S	-	-	-	-	-	E.COLI	S	S	S	S	S	S	S	-	S
29	560351	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
30	1241065	-	S	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
31	1254313	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
32	1264150	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
33	1239996	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
34	1237859	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
35	1057175	-	-	R	S	S	S	-	NO GROWTH	-	-	-	-	-	-	-	-	-
36	1307338	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
37	1305971	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
38	692675	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
39	1301867	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
40	1114661	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
41	877946	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
42	1260749	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
43	1217344	R	R	-	-	-	-	-	BUEKHOLDERIA CEPACIA	S	R	S	S	R	-	S	-	R
44	1171633	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
45	1154941	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
46	1114931	-	-	-	-	-	-	-	E.COLI	S	S	S	S	S	S	S	-	R
47	1156334	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
48	1262068	S	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
49	1195137	-	-	-	-	-	-	-	E.COLI	S	S	S	S	S	S	S	-	S
50	1249660	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
51	1283082	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
52	1288277	-	-	-	-	-	-	-	E.COLI	S	S	S	S	R	S	S	-	S
53	1288236	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
54	1250154	-	-	-	-	-	-	-	E.COLI	S	S	S	S	R	S	S	-	S
55	1249527	-	-	-	-	-	-	-	PSEUDOMONAS	S	S	S	S	R	-	-	-	S
56	1186127	-	-	S	S	S	S	S	NO GROWTH	-	-	-	-	-	-	-	-	-
57	1144420	-	-	-	-	-	-	-	E.COLI	S	S	S	S	S	S	S	-	S
58	1142409	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
59	1270370	-	-	S	S	S	S	S	NO GROWTH	-	-	-	-	-	-	-	-	-
60	1261314	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-

Sr. No	MRD NO.	GENTAMYCIN	FLUCONAZOLE	VORICONAZOLE	AMPHO B	CASPOFUNGIN	ANIDULAFUNGIN	RADIOLOGICAL FINDINGS LEFT SIDED APN	RIGHT SIDED APN	B/L APN	EPN (TOTAL)	LEFT SIDED EPN	RIGHT SIDED EPN	B/L EPN	RENAL ABSCESS	PAPILLARY NECROSIS	WAN et al TYPE 1	EPN (RADIOLOGICAL CLASSIFICATION) WAN et al TYPE 2	HUANG AND TSENG TYPE 1	HUANG AND TSENG TYPE 2
1	877945	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
2	1137151	-	-	-	-	-	-	-	-	-	Y	-	YES	-	-	-	YES	-	YES	-
3	730414	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
4	1206753	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
5	1044183	S	-	-	-	-	-	YES	-	-	N	-	-	-	YES	-	-	YES	-	YES
6	1044139	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
7	935435	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
8	1118349	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
9	1271662	S	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
10	1295666	-	-	-	-	-	-	-	-	-	Y	YES	-	-	-	-	YES	-	-	-
11	1277829	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
12	1281201	-	-	-	-	-	-	-	-	-	N	-	-	-	YES	-	-	-	-	-
13	1280073	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
14	1133809	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
15	1283518	R	-	-	-	-	-	-	-	-	Y	-	YES	-	-	-	YES	-	-	YES
16	1286829	-	-	-	-	-	-	-	-	-	Y	YES	-	-	-	-	YES	-	-	-
17	1032971	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
18	1191338	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
19	254921	S	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
20	118097	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
21	1196871	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
22	1270439	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
23	1126635	S	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
24	1056552	S	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
25	27034	S	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
26	1216377	R	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
27	761109	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
28	1146315	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
29	560351	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
30	1241065	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
31	1254313	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
32	1264150	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
33	1239996	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
34	1237859	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
35	1057175	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
36	1307338	-	-	-	-	-	-	-	-	-	Y	-	YES	-	-	-	YES	-	-	-
37	1305971	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
38	692675	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
39	1301867	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
40	1114661	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
41	877946	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
42	1260749	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
43	1217344	R	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
44	1171633	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
45	1154941	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
46	1114931	R	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	YES	-	-	-
47	1156334	-	-	-	-	-	-	-	-	-	N	-	-	-	YES	-	-	-	-	-
48	1262068	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
49	1195137	R	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
50	1249660	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
51	1283082	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
52	1288277	S	-	-	-	-	-	-	-	-	Y	-	YES	-	-	-	YES	-	-	-
53	1288236	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
54	1250154	S	-	-	-	-	-	-	-	-	Y	YES	-	-	-	-	YES	-	-	YES
55	1249527	S	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
56	1186127	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
57	1144420	R	-	-	-	-	-	-	-	-	Y	YES	-	-	-	-	YES	-	-	YES
58	1142409	-	-	-	-	-	-	-	-	-	Y	-	YES	-	-	-	YES	-	-	YES
59	1270370	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
60	1261314	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-

Sr. No	MRD NO.	HUANG AND TSENG TYPE 3 A	HUANG AND TSENG TYPE 3B	HUANG AND TSENG TYPE 4	Hb At presentation	Hb Peak Values	Hb On outcome	TLC At presentation	TLC Peak Values	TLC On outcome	PLATELET At presentation	PLATELET Peak Values	PLATELET on outcome	INR At presentation	INR Peak Values	INR On outcome	RBS At presentation	RBS Peak Values	RBS On outcome	Ketones At presentation	Ketones Peak Values	Ketones On outcome
1	877945	-	-	-	8.5	8.8	8.3	10.2	21.9	16.6	297	213	215	2.45	1.41	1.44	277	302	210	0.4	0.2	0.1
2	1137151	-	-	-	7.6	8.4	8.8	6	5	6	150	130	117	1.01	1.06	0.89	264	148	170	0.3	0.2	0.6
3	730414	-	-	-	12	10	11	16	13	9	207	243	226	1.4	1.5	1.7	221	156	172	0.7	0.4	0.3
4	1206753	-	-	-	7.9	9	11.7	7.5	4.6	6.8	64	68	87	1.5	1.4	1.2	244	155	177	0.9	0.5	0.3
5	1044183	-	-	-	8.4	8.5	7.9	13	6	6	120	82	66	1.4	1.6	1.7	177	134	165	0.4	0.5	0.4
6	1044139	-	-	-	9.9	8.6	9.1	37	23	5	56	100	170	1.07	0.97	1.2	50	134	165	0.1	0.1	0.2
7	935435	-	-	-	7.5	7.9	8	5.8	6.6	6.3	252	243	239	1.13	1.15	1.3	144	166	172	0.2	0.3	0.2
8	1118349	-	-	-	11	12	12	19	20	12	130	225	290	1.4	1.3	1.1	101	70	79	0.1	0.2	0.1
9	1271662	-	-	-	10	8	8	3.4	9.8	12	90	330	453	1.34	1	1.1	156	123	158	0.1	0.3	0.4
10	1295666	-	-	YES	12	11	11	34	17	23	6	36	31	2.4	2.6	2.7	245	222	267	0.3	0.2	0.1
11	1277829	-	-	-	10	9	12	15	11	8	545	322	244	1.4	1.4	1.3	234	225	287	0.1	0.4	0.3
12	1281201	-	-	-	13	13	15	12	7	8.9	216	243	193	1.16	1.7	1.2	266	134	154	0.1	0.2	0.4
13	1280073	-	-	-	10	10	9	12	19	15	206	254	353	1.36	1.3	1.2	232	243	181	0.1	0.3	0.4
14	1133809	-	-	-	9.5	9.2	9.4	6.3	7.4	6.8	351	346	272	1.16	1.15	1.2	411	187	145	2.4	0.4	0.1
15	1283518	-	-	-	7.9	8.2	7.6	18	13	5	209	368	218	1.12	1.13	1.34	167	135	187	0.1	0.5	0.2
16	1286829	YES	-	-	9.6	10	8	9	9	8	433	399	524	1.12	1.15	1.14	232	221	143	0.5	0.4	0.2
17	1032971	-	-	-	8	6.7	7	18	14	11	5	70	64	1	1.1	1.4	224	176	186	0.1	0.5	0.3
18	1191338	-	-	-	9.1	9.5	9.4	16	15	8.8	436	617	382	1.15	1.24	1.23	222	221	123	0.5	0.3	0.2
19	254921	-	-	-	8.2	9.4	9.5	12	12	8	124	470	425	1.15	1.14	1.2	184	193	163	0.1	0.7	0.4
20	118097	-	-	-	9	7	9	12	18	6	117	148	196	1.19	1.15	1.17	121	135	114	0.1	0.3	0.1
21	1196871	-	-	-	10	11	10	10	13	8	399	443	522	1.04	1.23	1.09	70	100	176	0.1	0.1	0.1
22	1270439	-	-	-	16	14	12	10	7.7	6.4	90	120	172	1.08	1.04	1.05	126	235	187	0.3	0.4	0.2
23	1126635	-	-	-	10	9.9	8.5	15	18	9.2	169	233	461	1.27	1.21	1.16	245	126	198	0.4	0.3	0.2
24	1056552	-	-	-	6.5	9	9	30	13	12	150	122	132	1.45	1.39	1.4	234	259	271	0.1	0.4	0.2
25	27034	-	-	-	8.3	7.4	8.2	32	27	14	150	130	102	1.7	1.5	1.3	101	131	104	0.1	0.2	0.1
26	1216377	-	-	-	7.3	6.5	9.2	26	18	10	547	612	515	1.18	1.36	1.2	123	172	194	0.1	0.6	0.4
27	761109	-	-	-	8.8	7.9	7-Mar	10	8	7	165	169	220	1.11	1.2	1.15	164	198	257	0.1	0.3	0.2
28	1146315	-	-	-	7	7.8	7.6	8.6	12.6	14.3	40	152	204	1.32	1.23	-	235	134	176	0.1	0.2	0.1
29	560351	-	-	-	6.3	9.3	8.3	11	10	11	173	156	160	1.23	1.24	1.1	176	193	134	0.1	0.3	0.1
30	1241065	-	-	-	14	11	8.7	17	5	9	298	120	401	1.13	1.34	1.31	400	406	167	4.3	3.2	0.5
31	1254313	-	-	-	11	12	11	7	7.6	7.1	368	255	266	1.05	1.1	1.02	239	128	111	0.1	0.3	0.1
32	1264150	-	-	-	9	10	11	7.2	9.3	10	206	307	315	1.16	1.09	1.08	165	175	198	0.1	0.6	0.2
33	1239996	-	-	-	6.8	7.5	8	7.5	6.2	4.4	310	187	228	1.12	1.34	1.14	134	165	176	0.1	0.1	0.3
34	1237859	-	-	-	12	11	11	9.4	9.6	8	144	155	201	1.15	1.2	1.3	145	196	133	0.1	0.2	0.2
35	1057175	-	-	-	9.8	8.4	9.3	23	11	6.7	120	90	87	1.44	1.67	1.77	299	301	189	0.7	0.5	0.2
36	1307338	YES	-	-	9.4	9.1	8.9	16	15	10	571	816	533	1.58	1.44	1.25	288	266	245	0.7	0.4	0.4
37	1305971	-	-	-	8.3	8.6	8.6	9	10.2	5.8	100	223	150	1.3	1.23	1.38	178	198	145	0.1	0.1	0.2
38	692675	-	-	-	11	10	10	15	8	6.7	375	339	293	1.31	1.16	1.38	252	213	278	0.1	0.2	0.3
39	1301867	-	-	-	9.4	8.1	9	8.6	7.7	7.4	284	229	311	1.12	1.27	1.3	166	187	192	0.5	0.3	0.4
40	1114661	-	-	-	7.8	8.5	7.6	15	9.7	5.3	171	196	211	1.29	1.24	1.35	176	183	194	0.4	0.3	0.1
41	877946	-	-	-	8.5	7.4	8.9	10	12	16	297	240	255	2.45	1.9	1.3	224	256	133	0.3	0.3	0.1
42	1260749	-	-	-	11	11	9.6	5.9	6.8	7.1	354	306	278	0.88	0.96	1.12	102	105	99	0.4	0.3	0.2
43	1217344	-	-	-	8.1	8.3	10.7	8.8	8.7	6.4	125	160	140	1.31	1.36	1.23	99	93	92	0.2	0.2	0.1
44	1171633	-	-	-	9.2	7.9	8.7	15	16	9.4	84	293	255	1.25	1.01	1.3	168	198	202	0.2	0.1	0.2
45	1154941	-	-	-	10	12	11.3	7.4	12.3	9.8	244	267	300	1.15	1.13	1.34	114	109	98	0.1	0.3	0.1
46	1114931	-	YES	-	8.7	9.4	7.9	17	13	4.6	22	64	165	1.08	1.06	1.34	276	174	193	0.6	0.3	0.3
47	1156334	-	-	-	8.5	9.4	9	26	10	4.3	454	432	210	1.39	1.16	1.03	234	165	187	0.4	0.4	0.1
48	1262068	-	-	-	8.4	7.1	8	13	8.8	9	489	385	282	1.47	1.33	1.21	129	111	97	0.3	0.1	0.4
49	1195137	-	-	-	5.9	9.3	8.5	17	8.3	8.9	150	211	289	1.41	1.24	1.33	169	263	188	0.2	0.1	0.6
50	1249660	-	-	-	8.8	9	8.8	13.2	8.7	9	330	363	293	1.24	1.36	1.3	265	156	172	0.1	0.1	0.2
51	1283082	-	-	-	7.6	8.9	9.1	9.6	10.1	7.8	116	360	391	1.13	1.05	1.33	241	117	119	0.4	0.3	0.1
52	1288277	YES	-	-	10.1	8.1	10	9.4	10.6	13.2	150	140	451	1.05	1.23	1.12	164	241	157	0.2	0.2	0.1
53	1288236	-	-	-	7.9	7.3	9.1	22	9	11	355	308	276	1.8	1.32	1.13	156	134	178	0.2	0.3	0.2
54	1250154	-	-	-	7.3	6.8	7.4	18	9.2	6.3	154	216	195	1.29	1.23	1.13	234	213	261	0.3	0.3	0.1
55	1249527	-	-	-	10.5	8.8	9.1	20	6.5	10.8	80	120	190	1.44	1.34	1.22	127	136	168	0.1	0.4	0.2
56	1186127	-	-	-	8.7	8.5	8.1	15	10	9.1	336	396	527	1.11	1.2	1.6	132	121	102	0.1	0.1	0.1
57	1144420	-	-	-	7.9	6.1	8.2	10.7	10-Jan	8.7	166	368	347	1.24	1.2	1.26	356	300	221	0.6	0.5	0.4
58	1142409	-	-	-	11.2	9.4	9.2	40	19	9.8	150	126	167	2.02	1.47	1.52	237	221	117	0.5	0.2	0.1
59	1270370	-	-	-	9.9	8.3	9	16.8	13.1	10.6	331	569	410	1.1	1.2	1.3	241	127	111	0.4	0.3	0.5
60	1261314	-	-	-	9.8	7.5	7.3	22	11	6	70	110	182	1.44	1.46	1.39	1256	168	145	0.4	0.2	0.4

Sr. No	MRD NO.	Arterial At presentation	Arterial Peak Values	Arterial On outcome	pO2 At presentation	pO2 Peak Values	pO2 On outcome	pCo2 At presentation	pCo2 Peak Values	pCo2 On outcome	Lactate At presentation	Lactate Peak Values	Lactate On outcome	HCO3 At presentation	HCO3 Peak Values	HCO3 On outcome	SO2 At presentation	SO2 Peak Values	SO2 On outcome	HEPATIC DYSFUNCTION	S. bilirubin (T) At presentation	S. bilirubin (T) Peak Values
1	877945	7.29	7.32	7.35	110	92	97	23	31	29	0.5	0.4	0.3	14	22	26	98	97	99	NO	0.25	0.41
2	1137151	7.34	7.35	7.33	98	97	99	30	32	29	0.6	0.4	0.1	30	28	24	96	98	99	NO	0.58	0.33
3	730414	7.41	7.42	7.39	87	88	86	22	23	24	1.5	1.1	0.9	31	36	29	98	97	98	NO	0.5	0.6
4	1206753	7.48	7.4	7.35	96	84	96	35	30	23	3.7	0.2	0.9	26	26	24	87	90	96	NO	0.34	0.46
5	1044183	7.3	7.2	7.3	98	98	97	17	21	29	1	1	2.3	9	9.6	19	100	97	98	YES	3.6	2.5
6	1044139	7.45	7.43	7.35	123	92	91	23	23	24	0.9	0.6	0.5	26	24	25	99	97	98	NO	0.89	0.77
7	935435	7.46	7.45	7.35	172	123	91	30	29	22	1.1	0.4	0.1	21	24	26	100	99	98	NO	0.45	0.44
8	1118349	7.4	7.35	7.4	100	98	98	37	29	28	1.5	0.4	0.5	23	24	25	98	99	98	NO	4.53	4.01
9	1271662	7.24	7.23	7.35	82	88	97	37	34	25	4.4	1.5	0.7	18	24	26	99	98	99	NO	0.75	0.65
10	1295666	7.2	7.24	7.1	78	87	86	34	67	56	1.6	2.6	2.7	22	16	18	97	85	87	NO	0.71	1.75
11	1277829	7.4	7.3	7.4	98	97	98	34	33	25	1.2	1.1	0.5	19	24	28	99	99	97	NO	0.38	0.63
12	1281201	7.4	7.3	7.3	88	87	85	34	35	23	1.8	1.7	0.6	25	28	25	98	97	99	NO	0.6	0.6
13	1280073	7.3	7.4	7.5	86	77	75	34	37	29	1.5	1.1	1.1	28	29	27	99	97	96	NO	2.1	1.2
14	1133809	7.4	7.4	7.3	103	76	87	28	29	33	0.6	1.6	1.8	22	20	24	98	97	96	NO	0.24	0.46
15	1283518	6.17	7.38	7.5	144	77	89	60	42	34	0.9	1.4	1.1	21	24	27	99	98	95	YES	2.54	1.34
16	1286829	7.6	7.5	7.4	99	87	76	45	47	34	0.3	1.1	0.9	51	42	25	100	99	95	NO	0.17	0.11
17	1032971	7.4	7.3	7.3	99	98	86	34	35	32	1.2	0.6	0.5	31	28	24	98	95	98	NO	1.15	1.14
18	1191338	7.3	7.4	7.3	82	87	86	30	34	37	0.5	0.4	0.3	15	19	24	98	97	96	NO	0.33	0.4
19	254921	7.3	7.4	7.3	98	96	94	23	26	23	0.4	1.1	1.4	24	23	28	98	87	86	NO	0.78	0.42
20	118097	7.34	7.32	7.36	90	92	89	26	22	24	0.2	0.2	0.1	24	25	27	98	96	97	NO	0.83	0.76
21	1196871	7.37	7.36	7.35	89	90	95	30	32	32	0.5	0.3	0.1	27	25	27	98	97	96	NO	0.41	0.68
22	1270439	7.4	7.35	7.38	92	94	98	32	30	28	0.4	0.4	0.3	21	25	26	97	98	96	YES	5.6	4.37
23	1126635	7.4	7.5	7.3	92	138	77	22	20	33	1.5	1.5	3.1	15	16	21	98	99	95	NO	0.88	0.5
24	1056552	7.34	7.4	7.46	108	94	65	28	38	36	4	3.4	2.2	15	24	26	98	97	94	NO	1.48	1.34
25	27034	7.35	7.37	7.36	70	87	84	30	37	32	0.5	0.3	0.1	22	25	27	98	96	99	NO	0.46	0.46
26	1216377	7.4	7.5	7.4	89	89	94	39	28	31	1.3	0.5	1.7	20	17	26	98	95	94	NO	0.4	0.83
27	761109	7.36	7.37	7.45	65	67	86	29	27	30	1.5	1.1	0.3	16	22	26	91	96	99	NO	0.21	0.11
28	1146315	7.2	7.32	7.38	144	108	77	23	36	32	1	0.6	1.7	18	22	24	99	94	94	NO	2.18	1.81
29	560351	7.32	7.34	7.35	107	101	89	23	28	29	2.1	1.3	1.1	29	27	23	98	95	94	NO	0.17	1.27
30	1241065	7.05	7.28	7.35	106	98	86	40	48	30	6.3	2.1	1.1	10	16	25	98	94	94	NO	0.3	0.52
31	1254313	7.38	7.36	7.35	98	87	88	23	26	29	1.1	0.9	0.7	26	25	27	97	96	97	NO	0.49	0.48
32	1264150	7.36	7.33	7.41	90	91	93	29	30	34	2.2	1.3	0.4	30	26	24	98	97	98	NO	0.35	0.44
33	1239996	7.34	7.36	7.38	87	88	90	30	37	29	1.1	2.1	0.4	26	29	24	98	97	99	NO	0.26	0.34
34	1237859	7.34	7.37	7.35	89	87	86	34	30	31	2.2	1.5	0.7	24	27	25	97	98	99	NO	1.02	0.99
35	1057175	7.27	7.32	7.36	76	78	86	65	45	38	5.6	6.5	1.5	10	24	29	87	88	90	YES	4.6	2.4
36	1307338	7.29	7.34	7.39	87	88	94	34	36	37	0.4	1.4	1.3	35	23	29	98	94	96	NO	0.34	0.54
37	1305971	7.35	7.38	7.36	78	86	73	23	25	29	2.1	1.7	1.2	29	26	24	97	94	96	NO	0.88	0.76
38	692675	7.37	7.41	7.35	86	85	76	34	36	29	2.2	1.7	1.8	29	30	25	94	96	97	NO	0.58	0.46
39	1301867	7.41	7.42	7.37	87	76	81	29	34	31	2.2	2.1	0.3	29	25	26	95	97	94	NO	0.26	0.37
40	1114661	7.42	7.41	7.38	86	84	83	26	28	26	1.6	0.2	0.2	28	28	25	96	94	98	NO	0.84	0.54
41	877946	7.39	7.37	7.36	83	82	89	27	25	28	0.3	0.4	0.5	26	25	28	94	94	93	NO	0.33	0.81
42	1260749	7.45	7.39	7.34	93	96	92	36	25	30	0.5	0.4	1.1	24	26	24	96	98	97	NO	0.06	0.32
43	1217344	7.4	7.35	7.34	96	94	90	23	24	27	0.1	0.3	0.2	24	26	25	97	99	95	NO	0.9	0.7
44	1171633	7.4	7.42	7.35	86	79	96	28	30	23	2.5	1.2	0.2	17	21	24	97	98	95	NO	1.4	0.63
45	1154941	7.12	7.24	7.4	93	94	96	21	26	22	0.4	0.3	0.2	6.8	12	26	94	96	99	NO	0.47	0.37
46	1114931	7.4	7.48	7.34	97	66	98	26	24	30	1.8	2.2	1.3	18	17	25	99	96	97	NO	1.03	0.93
47	1156334	7.5	7.43	7.39	73	86	83	23	28	29	2.1	1.4	0.4	21	28	26	98	93	94	NO	0.2	0.34
48	1262068	7.32	7.45	7.41	122	85	92	21	35	30	2.2	1.9	1.8	10	25	26	98	94	97	NO	0.72	0.65
49	1195137	7.44	7.46	7.42	99	93	92	25	27	30	4.5	3.5	1.4	17	19	25	99	93	96	NO	0.5	0.25
50	1249660	7.26	7.33	7.38	76	85	91	32	30	27	1.1	2.5	1.9	26	28	29	97	95	96	NO	0.65	0.56
51	1283082	7.45	7.34	7.45	79	80	85	34	28	25	0.4	0.5	0.3	29	25	26	98	97	96	NO	0.85	0.65
52	1288277	7.23	7.28	7.46	115	118	98	14	17	22	0.9	1.6	1.3	5	12	22	98	97	98	NO	0.4	0.65
53	1288236	7.4	7.42	7.34	94	97	95	23	24	26	2.5	2.1	1	31	27	25	95	95	98	NO	0.5	0.4
54	1250154	7.27	7.29	7.34	78	79	75	39	31	24	4.3	2.4	1.1	26	29	24	99	94	95	NO	0.69	0.52
55	1249527	7.34	7.31	7.32	78	74	76	23	28	27	4.3	2.5	3.3	34	25	26	97	93	94	NO	1.47	1.22
56	1186127	7.35	7.36	7.39	89	78	79	23	25	29	2.1	1.6	0.7	27	28	25	98	96	99	NO	0.51	0.44
57	1144420	7.4	7.41	7.42	89	91	92	34	32	29	0.5	0.6	0.4	25	26	27	99	98	97	NO	0.58	0.57
58	1142409	7.34	7.46	7.35	98	97	96	32	29	26	0.6	0.5	0.3	26	27	29	99	98	96	NO	2.9	2.6
59	1270370	7.35	7.45	7.38	98	96	95	32	34	35	0.6	0.6	0.5	26	27	28	99	96	98	NO	0.67	20
60	1261314	7.35	7.44	7.39	98	97	96	34	22	32	0.6	0.5	0.3	25	26	27	99	97	98	NO	0.57	0.4

Sr. No	MRD NO.	S. bilirubin (T) On outcome	SGOT At presentation	SGOT Peak Values	SGOT On outcome	SGPT At presentation	SGPT Peak Values	SGPT On outcome	ALP At presentation	ALP Peak Values	ALP On outcome	Total protein At presentation	Total protein Peak Values	Total protein On outcome	S. albumin At presentation	S. albumin Peak Values	S. albumin On outcome	Blood urea At presentation	Blood urea Peak Values	Blood urea On outcome	Creatinine At presentation
1	877945	0.59	11	8	10	14	14	13	89	77	76	5.7	6.2	6.2	3.37	3.16	3.28	170	121	128	7.64
2	1137151	0.29	16	10	19	23	12	16	132	108	96	7	6.5	6.2	3.11	3.12	5.27	96	88	68	4.07
3	730414	0.4	56	54	53	43	39	41	89	97	76	6.1	5.9	5.8	3.9	3.8	3.6	171	99	67	3.3
4	1206753	0.65	25	35	34	8	12	24	113	115	113	5.2	5.5	5.8	1.78	2	2.78	185	186	116	5.7
5	1044183	0.9	573	426	187	269	160	57	617	386	256	6	6.1	5.7	3.8	3.3	3.7	191	198	66	4.68
6	1044139	0.9	15	34	23	12	22	23	103	201	177	5	5.4	5.7	2.8	2.5	3.6	299	440	37	5.2
7	935435	0.7	11	16	26	15	19	22	109	143	133	6.7	6.4	6.8	3.6	3.7	3.8	53	23	17	1.3
8	1118349	2.43	47	48	61	45	43	43	217	210	205	5.6	5.3	5.5	2.72	3.04	2.73	108	71	56	2.7
9	1271662	0.48	69	46	25	29	34	24	109	101	78	6.3	5.7	4.9	3.3	2.51	3.1	138	116	107	4.7
10	1295666	1.67	47	84	43	41	60	24	158	460	297	4	4.4	4	1.9	2	1.65	80	122	93	2.8
11	1277829	0.55	18	24	25	29	18	23	162	110	98	6.1	8.1	7.7	2.9	3.5	3.6	124	69	40	4.4
12	1281201	0.7	27	20	23	17	26	22	85	101	97	8.1	7.5	7.2	4.5	4.4	4.4	27	19	20	0.8
13	1280073	0.85	42	34	23	32	29	31	262	250	264	6	5.3	6	3.3	2.7	2.9	117	79	37	2.3
14	1133809	0.56	11	13	34	12	9	16	86	73	66	6.7	6.2	6.8	4	3.4	4.7	252	169	112	8.2
15	1283518	0.67	345	247	125	197	175	67	256	230	112	5.4	6.7	5.9	2.24	2.28	3	87	148	106	5.1
16	1286829	0.34	26	27	34	12	34	24	123	107	54	5.5	5.6	5.8	2.54	2.9	3.1	84	88	53	3.4
17	1032971	0.9	44	48	34	20	26	38	325	179	165	5.4	5.8	5.2	2.3	2.8	2.9	494	218	155	11
18	1191338	0.6	16	17	19	19	22	34	144	177	133	7.3	7.8	6.8	3.84	3.66	3.78	256	126	87	12.3
19	254921	0.28	48	34	48	30	31	36	223	135	120	6.2	6.6	7.8	2.9	3.1	4	109	106	82	3.3
20	118097	0.67	30	45	40	21	34	16	93	87	101	5.6	5.9	6.2	3	3.5	3.7	124	51	37	2.7
21	1196871	0.65	29	28	35	17	31	24	94	105	123	6.5	7.7	6.5	3.2	3.7	3.5	58	39	40	2.5
22	1270439	1.7	322	259	145	200	120	56	259	277	323	5.4	5.3	5.6	2.7	2.8	2.8	80	56	35	2.6
23	1126635	0.34	40	50	55	83	46	34	109	137	124	5.3	5.3	5.6	2.56	2.8	2.6	122	82	23	3
24	1056552	1.1	72	54	44	42	44	21	138	126	86	5.9	5	4.8	2.6	3	3.1	55	116	99	2.6
25	27034	0.57	48	88	34	35	17	14	75	131	86	5.4	4.4	5.1	3.1	2.4	2.7	48	132	77	2.7
26	1216377	0.55	25	37	48	30	24	43	191	115	131	5.5	5.7	5.2	2.69	2.38	2.8	135	119	46	2.61
27	761109	0.27	22	45	34	16	24	39	293	211	104	7.2	6.9	7.1	3.7	4.1	4.3	180	170	165	5.3
28	1146315	2.02	149	31	26	80	18	20	286	630	519	4.7	4.8	5.3	2.18	1.81	2.02	208	213	171	7.15
29	560351	0.89	8	47	34	14	16	19	174	202	90	5.9	6.2	6.3	2.48	2.31	2.9	220	180	107	6.64
30	1241065	0.62	22	26	34	20	17	45	118	70	78	6.5	5.1	6.1	3.93	2.91	3.1	57	108	82	1.89
31	1254313	0.38	16	18	35	9	25	28	93	131	103	7.2	7.6	6.9	3.89	3.9	4.1	126	133	59	2.7
32	1264150	0.32	13	16	25	12	19	25	68	96	100	7.6	7.3	6.9	4.16	4.11	4.7	58	26	27	2.5
33	1239996	0.22	19	24	28	11	29	34	105	99	87	7.9	7.1	6.9	3.11	3.4	3.9	156	120	90	3.53
34	1237859	0.89	16	26	15	25	27	30	173	165	99	6.1	6.4	6.8	2.65	2.8	2.9	138	76	56	2.86
35	1057175	0.9	573	359	120	169	166	87	617	300	187	6	5.9	5.4	1.81	2	1.9	212	167	87	5.87
36	1307338	0.65	33	38	56	14	17	23	221	217	187	5.3	6.1	6.5	2.26	2.7	2.9	31	45	23	1.35
37	1305971	0.75	28	34	36	22	28	26	221	198	177	5.9	6.7	6.3	2.8	2.9	2.5	170	145	126	8
38	692675	0.84	73	45	56	67	45	36	98	95	74	6.7	6.3	5.9	2.44	3.1	3.33	242	222	183	7.5
39	1301867	0.3	22	35	37	26	28	41	134	99	104	9.5	8.7	7.9	4.1	4.5	3.9	163	143	114	3.5
40	1114661	0.73	23	27	29	23	34	38	127	167	99	6	6.4	6.5	2.65	2.9	3.5	75	77	84	2.74
41	877946	0.99	13	154	52	5	209	195	91	258	170	6.6	6.4	6.9	2.63	2.69	2.54	170	128	127	7.6
42	1260749	0.25	35	23	25	22	16	23	102	115	113	7.9	7.7	7.4	4.18	4.15	4.19	99	58	28	3.05
43	1217344	0.8	43	44	48	46	36	27	100	121	99	6.3	6.9	7.1	4.3	4.2	4.7	144	146	176	6.03
44	1171633	0.55	22	17	19	15	12	19	213	92	76	5.6	6.8	6.5	3.02	3.32	3.9	126	115	54	4.11
45	1154941	0.4	8	42	48	10	25	48	63	66	69	6.3	6.4	6.1	3.28	3.6	3.81	253	98	39	18
46	1114931	0.87	28	29	35	10	45	34	230	137	97	6.5	7.2	6.9	2.59	2.87	3.1	198	167	112	2.28
47	1156334	0.89	15	21	11	10	21	11	119	105	69	7.9	7.8	6.7	3.27	3.41	3.17	36	41	33	1.06
48	1262068	0.63	51	55	53	20	35	34	178	145	99	7.6	7.3	7.5	2.85	2.96	2.65	410	156	101	13
49	1195137	0.45	68	45	18	37	26	24	127	123	98	5.9	6.5	6.3	2.9	2.74	2.6	115	69	56	4.76
50	1249660	0.45	23	28	35	13	45	23	86	27	28	6	5.8	4.8	2.86	2.76	2.78	108	128	30	6.9
51	1283082	0.76	16	17	19	16	22	27	111	98	94	8.2	7.9	7.8	3.92	4.1	4.2	111	82	51	5.32
52	1288277	0.25	6	10	14	20	16	18	139	78	99	6	6.8	7.3	2.5	3.28	3.6	91	59	30	1.19
53	1288236	0.4	23	27	29	14	17	19	143	97	87	6.5	7.3	7.5	2.8	3.5	3.9	104	54	34	4.63
54	1250154	0.81	13	13	11	34	17	25	180	163	145	5.5	4.5	4.9	2.32	1.85	2.99	357	197	199	6.13
55	1249527	0.9	77	67	34	49	35	36	209	167	99	5.8	5.4	5.9	2.72	2.9	3.6	95	114	76	3.73
56	1186127	0.43	16	23	24	14	15	17	121	111	98	7.7	6.9	7.1	3.23	3.67	3.78	193	87	57	7.14
57	1144420	0.44	34	32	14	41	37	17	200	225	135	5.8	5.6	6	2.49	2.29	2.3	35	20	27	2.85
58	1142409	1.9	32	89	37	30	44	16	2332	290	147	7.6	7.8	7.4	2.7	2.1	2.3	86	60	46	3.2
59	1270370	13	172	6.6	2.73	31	35	33	172	135	186	6.6	7.8	6.4	2.76	2.7	2.5	31	26	33	1
60	1261314	0.34	26	31	27	19	30	26	121	157	167	6.2	5.1	7.1	2.62	2.33	2.55	167	143	49	4.09

Sr. No	MRD NO.	Creatinine Peak Values	Creatinine On outcome	AKI/ ACUTE ON CKD	SODIUM At presentation	SODIUM Peak Values	SODIUM On outcome	POTASSIUM At presentation	POTASSIUM Peak Values	POTASSIUM On outcome	S. uric acid At presentation	PCT At presentation	CRP At presentation	HbA1c At presentation	calcium At presentation	magnesium At presentation	phosphorus At presentation	Supplemental oxygen support
1	877945	5.75	5.96	YES	134	129	132	5.01	4.18	3.98	5.6	2.71	192	9.7	8.8	2.09	5.2	YES
2	1137151	3.27	1.99	YES	136	137	134	5.19	5.73	4.47	8.3	0.13	19	6.3	7.8	1.4	5	NO
3	730414	1.91	0.8	YES	134	135	132	4.5	4.8	3.9	5.8	87	256	9.8	7.9	1.9	4.7	YES
4	1206753	5.3	3.75	YES	151	146	143	3.3	3.89	3.47	7	1.37	254	7.8	8.7	1.7	5.6	YES
5	1044183	4.5	1.2	YES	140	139	134	4.1	3.6	3.2	4.5	2.58	233	7.7	7.2	2.3	-	YES
6	1044139	5	0.76	YES	117	133	136	4.7	4.6	3.03	5.6	31	198	9.3	6.8	4.5	6.2	YES
7	935435	1.2	1.1	NO	133	130	132	4.3	4.04	4.3	5.9	0.06	66	6.4	8.9	1.8	-	YES
8	1118349	1.4	1.12	YES	137	141	135	4.1	3.8	4.5	10.2	98	256	-	8.2	2.12	4.8	NO
9	1271662	3.7	2.1	YES	136	139	135	5.6	4	3.9	7.5	100	45	6.3	7.8	2.23	3.1	YES
10	1295666	1.2	1.8	YES	132	138	129	3.58	3.2	4.74	4.6	23	72	8.9	7.4	1.26	3.3	YES
11	1277829	2.2	1.3	YES	141	133	136	6.2	4.5	4.4	9.4	45	101	9.4	8.7	1.9	3.76	NO
12	1281201	0.94	0.88	NO	139	140	143	4.4	4.1	3.7	7.8	0.07	93	6	7.5	2.6	4.7	NO
13	1280073	1.8	1	YES	134	135	136	5.1	4.5	5	9.6	2.2	150	7.8	8.1	2.1	3.18	NO
14	1133809	6.8	5.6	YES	132	135	135	5.8	4.8	4.9	7.6	0.64	97	8.9	9.4	2.1	6.94	YES
15	1283518	6.1	2.9	YES	123	139	144	5.1	3.2	4.17	7.4	3.5	98	6.3	9.1	2.38	6.5	YES
16	1286829	2.1	1.5	YES	132	134	130	3.8	3.6	4.5	3.1	0.26	97	7.5	7.2	1.2	3.2	YES
17	1032971	6	4.7	YES	127	143	145	5.9	4.6	3.9	8.9	100	200	6.7	-	2.1	5.69	NO
18	1191338	6.2	3.8	YES	133	137	132	6.7	5.4	4.6	5.7	1	56	8.9	7.8	1.9	6.8	NO
19	254921	2.3	1.8	YES	133	132	133	4.4	5.4	5.1	9.1	13	145	8.3	7.5	2.8	4.8	YES
20	118097	1.5	1	YES	133	137	141	5.4	3.84	4.15	5.6	5.3	116	-	-	2.15	3.73	NO
21	1196871	2.3	2.2	YES	125	135	137	3.9	4.1	4.3	5.8	5.3	106	-	-	1.39	4.26	NO
22	1270439	1.4	1	YES	128	135	136	4.6	4.4	4.6	3.4	67	102	9.8	-	1.4	2	NO
23	1126635	2.2	1.1	YES	135	139	135	3.9	3.6	3.8	5.6	1.8	134	6.7	7.7	1.7	2.7	NO
24	1056552	1.8	1.2	YES	120	130	129	4.7	5.1	4.8	5.9	100	361	10	7.7	1.1	2.6	YES
25	27034	2.2	1.3	YES	133	134	130	3.9	3.7	3.6	3.9	58	200	-	-	1.36	2.8	YES
26	1216377	1.9	1.5	YES	134	136	123	6.1	3.6	4.5	6.4	22	357	8.9	8.3	2.3	4.7	YES
27	761109	5.6	5.2	YES	114	123	125	5.8	4.4	4.15	8.8	1.65	47	9.4	8.4	3.45	8.9	NO
28	1146315	4.2	6.34	YES	134	138	143	4.5	4.6	5.3	6.3	77	145	7.9	7.3	1.66	6.12	YES
29	560351	3.7	2.7	YES	130	138	141	4.5	3.7	3.6	6.7	16	207	7.9	6.1	1.51	5.46	YES
30	1241065	4.5	2.6	YES	134	136	134	5.2	4.2	4.8	4.8	56	29	15.4	7.7	2.77	7.9	YES
31	1254313	1.7	1.2	YES	132	140	131	4.9	3.62	4.5	3.9	0.82	20	13.2	9.4	3.2	4.9	NO
32	1264150	1.2	0.9	YES	137	133	138	3.7	4.3	4.6	4.1	0.18	171	8.4	8.8	1.9	3.9	NO
33	1239996	2.78	1.95	YES	138	133	132	3.5	3.4	3.3	10.5	0.25	56	9.4	8.2	1.9	5.74	NO
34	1237859	2.3	1.5	YES	130	140	135	4.6	3.9	4	5.8	0.52	44	8.4	7.9	2.4	7.5	NO
35	1057175	3.06	1.7	YES	140	138	135	4.1	3.4	3.9	5.6	2.58	62	7.7	6.7	1.75	5.1	YES
36	1307338	0.91	1.49	YES	131	135	129	4.2	4.36	4.6	7.6	1.64	122	10.1	7.9	1.31	2.52	NO
37	1305971	3.3	3.1	YES	123	135	136	5.3	4.7	5.3	6.5	5.6	87	8.9	7.4	2.5	6.8	NO
38	692675	6.29	3.73	YES	139	140	137	4.7	5.2	4.5	14.6	1.39	59	13.4	7.7	2.5	7.5	NO
39	1301867	2.8	2.5	YES	123	130	134	6.1	4.4	4.3	7.4	7.3	93	8.5	9	1.9	5.1	NO
40	1114661	2.97	1.79	YES	109	117	129	5.14	4.7	5.4	5.9	14	208	7.9	7.8	1.01	1.9	NO
41	877946	5.9	6.91	YES	134	132	136	5.01	3.9	4.9	5.6	2.71	208	8.4	-	2.5	3.6	YES
42	1260749	1.34	1.32	YES	136	137	131	6	5.01	4.37	8.6	6.7	87	-	8.3	2.8	5.3	NO
43	1217344	5.2	6.1	YES	127	131	136	4.65	4.9	5.32	3.7	11.3	201	-	8.7	2.6	3.7	NO
44	1171633	2.88	1.49	YES	125	144	137	4.86	3.91	4.81	6.3	68	291	10.3	8.5	1.37	2.43	NO
45	1154941	8.5	1.55	YES	131	142	140	6	4.6	4.5	8.6	8.6	2.84	-	8.6	2.9	13.2	NO
46	1114931	0.83	0.75	YES	143	130	134	4.01	3.96	3.45	4.5	0.59	67	9.4	7.9	2.8	6.4	YES
47	1156334	0.79	0.81	NO	129	131	135	5.2	5.54	4.4	3.8	31	200	9.4	8.8	2.2	2.17	NO
48	1262068	7	3.24	YES	126	128	126	7	3.8	4.7	7.8	1.31	230	-	8	2.53	13	NO
49	1195137	3.18	1.46	YES	133	139	136	6.19	5.17	4.5	6.9	100	328	10.3	8.4	2.14	2.09	YES
50	1249660	3.8	1.2	YES	141	143	144	3.37	4.1	3.5	12.4	22	127	9.5	8.6	2.45	4.6	YES
51	1283082	3.15	1.8	YES	126	133	142	5.8	5.02	3.59	7.1	6.9	281	8.7	10.5	2.7	4	NO
52	1288277	0.68	0.71	NO	134	138	139	3.8	5.04	3.93	3.8	35	189	9.6	7.4	1.84	3.4	YES
53	1288236	1.54	1.07	YES	130	137	136	5.82	3.88	4.09	7.5	20	145	10.4	8.9	1.36	1.9	YES
54	1250154	5.42	6.82	YES	114	131	137	8.5	5.6	4.9	6.8	5.87	212	9.7	9.8	3.11	8.9	YES
55	1249527	2.01	1.03	YES	139	137	135	4.8	4.2	3.7	8.6	24	144	9.5	9.4	1.56	5.2	YES
56	1186127	5.3	1.5	YES	121	134	137	5.9	5.2	3.9	7.8	3.17	166	10.4	10.2	2.43	4.7	NO
57	1144420	2.1	0.67	YES	131	130	138	4.2	4.6	3.9	4.5	0.66	201	8.9	7	1.77	2.5	NO
58	1142409	1.5	1.5	YES	130	133	132	5.1	4.1	3.4	6.3	2.44	340	7.2	8.4	1.8	3.5	YES
59	1270370	2.69	1.29	YES	130	129	138	4.27	4.16	3.07	4.6	0.91	231	11.1	7.8	1.58	2.49	YES
60	1261314	3.05	1.58	YES	133	136	132	4.7	4.54	4.11	10.3	6.1	232	7.7	8.2	1.95	5.18	NO

Sr. No	MRD NO.	TYPE OF RESPIRATORY SUPPORT	BINASAL	VENTURY	NRBM	NIV	MECHANICAL VENTILATION	Q SOFA SCORE	SEPSIS	ICU requirement	Mechanical ventilation	Need of inotropes/ SHOCK	ANTI-BIOTICS GIVEN IN THE HOSPITAL
1	877945	MECHANICAL VENTILATION	-	-	-	-	YES	0	NO	YES	YES	NO	MEROPENEM/POLYMYXIN B/COLISTIN/TIGICYCLINE/CEFTAZIDIME+ AVIBACTAM/FLUOROQUINOLONES/TEICOPLANIN/FLUCONAZOLE
2	1137151	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
3	730414	BINASAL	YES	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
4	1206753	BINASAL	YES	-	-	-	-	1	NO	YES	NO	YES	MEROPENEM/TEICOPLANIN
5	1044183	MECHANICAL VENTILATION	-	-	-	-	YES	3	YES	YES	YES	YES	MEROPENEM/POLYMYXIN B/COLISTIN/CLINDAMYCIN/TIGICYCLINE/CEFTAZIDIME+ AVIBACTAM/FLUOROQUINOLONES/TEICOPLANIN
6	1044139	BINASAL	YES	-	-	-	-	1	NO	NO	NO	YES	MEROPENEM/CEFTAZIDIME+ AVIBACTAM/TEICOPLANIN
7	935435	BINASAL	YES	-	-	-	-	0	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM
8	1118349	NO	-	-	-	-	-	2	YES	NO	NO	YES	MEROPENEM/TEICOPLANIN
9	1271662	NRBM	-	-	YES	-	-	2	YES	YES	NO	YES	MEROPENEM/TEICOPLANIN/METROGYL
10	1295666	BINASAL	YES	-	-	-	-	0	NO	YES	NO	NO	MEROPENEM/CEFAPERAZONE+SULBACTAM/CEFTAZIDIME+ AVIBACTAM/TEICOPLANIN
11	1277829	NO	-	-	-	-	-	1	NO	NO	NO	YES	CEFAPERAZONE+SULBACTAM/CEFTAZIDIME+ AVIBACTAM/TEICOPLANIN
12	1281201	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/POLYMYXIN B/COLISTIN/CEFTAZIDIME+ AVIBACTAM/TEICOPLANIN
13	1280073	NO	-	-	-	-	-	1	NO	NO	NO	NO	ERTAPENEM
14	1133809	BINASAL	YES	-	-	-	-	1	NO	NO	NO	YES	MEROPENEM/CEFTAZIDIME+ AVIBACTAM/TEICOPLANIN
15	1283518	MECHANICAL VENTILATION	-	-	-	-	YES	2	YES	YES	YES	YES	MEROPENEM/POLYMYXIN B/COLISTIN/TEICOPLANIN/FLUCONAZOLE
16	1286829	VENTURY	-	YES	-	-	-	0	NO	YES	NO	NO	ERTAPENEM/TEICOPLANIN/METROGYL
17	1032971	NO	-	-	-	-	-	0	NO	NO	NO	NO	ERTAPENEM/TEICOPLANIN/METROGYL/LEVOFLOXACIN
18	1191338	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
19	254921	BINASAL	YES	-	-	-	-	1	NO	NO	NO	NO	IMEPENEM/TIGICYCLINE/TEICOPLANIN
20	118097	NO	-	-	-	-	-	0	NO	NO	NO	NO	PIPERACILLIN+ TAZOBACTAM/TEICOPLANIN
21	1196871	NO	-	-	-	-	-	0	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
22	1270439	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
23	1126635	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/CEFTAZIDIME+ AVIBACTAM/TEICOPLANIN/AZITHROMYCIN
24	1056552	BINASAL	YES	-	-	-	-	2	YES	NO	NO	YES	MEROPENEM/TEICOPLANIN/FLUCONAZOLE
25	27034	BINASAL	YES	-	-	-	-	1	NO	NO	NO	YES	MEROPENEM/TEICOPLANIN/VORICONAZOLE
26	1216377	BINASAL	YES	-	-	-	-	1	NO	YES	NO	YES	IMEPENEM/POLYMYXIN B/COLISTIN/TEICOPLANIN/METROGYL
27	761109	NO	-	-	-	-	-	0	NO	NO	NO	NO	PIPERACILLIN+ TAZOBACTAM/TEICOPLANIN
28	1146315	BINASAL	YES	-	-	-	-	1	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
29	560351	VENTURY	-	YES	-	-	-	2	YES	YES	NO	YES	MEROPENEM/POLYMYXIN B/COLISTIN/TEICOPLANIN/ANIDULAFUNGIN
30	1241065	MECHANICAL VENTILATION	-	-	-	-	YES	2	YES	YES	YES	YES	ERTAPENEM/TEICOPLANIN/VORICONAZOLE
31	1254313	NO	-	-	-	-	-	0	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
32	1264150	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN/LEVOFLOXACIN
33	1239996	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/POLYMYXIN B/COLISTIN/TEICOPLANIN
34	1237859	NO	-	-	-	-	-	0	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
35	1057175	MECHANICAL VENTILATION	-	-	-	-	YES	2	YES	YES	YES	YES	MEROPENEM/TIGICYCLINE/CEFTAZIDIME+ AVIBACTAM/CLINDAMYCIN/FLUOROQUINOLONES/TEICOPLANIN/CASPOFUNGIN
36	1307338	NO	-	-	-	-	-	1	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
37	1305971	NO	-	-	-	-	-	0	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
38	692675	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/CEFTAZIDIME+ AVIBACTAM/TEICOPLANIN
39	1301867	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
40	1114661	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
41	877946	BINASAL	YES	-	-	-	-	1	NO	YES	NO	YES	MEROPENEM/POLYMYXIN B/COLISTIN/CEFTAZIDIME+ AVIBACTAM/TEICOPLANIN
42	1260749	NO	-	-	-	-	-	0	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
43	1217344	NO	-	-	-	-	-	1	NO	NO	NO	YES	PIPERACILLIN+ TAZOBACTAM/TEICOPLANIN
44	1171633	NO	-	-	-	-	-	0	NO	NO	NO	NO	IMEPENEM/TEICOPLANIN
45	1154941	NO	-	-	-	-	-	1	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
46	1114931	BINASAL	YES	-	-	-	-	3	YES	NO	NO	YES	MEROPENEM/TEICOPLANIN/FLUCONAZOLE
47	1156334	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
48	1262068	NO	-	-	-	-	-	0	NO	NO	NO	NO	PIPERACILLIN+ TAZOBACTAM/TEICOPLANIN
49	1195137	VENTURY	-	YES	-	-	-	1	NO	YES	NO	YES	MEROPENEM/TEICOPLANIN
50	1249660	BINASAL	YES	-	-	-	-	1	NO	NO	NO	YES	MEROPENEM/POLYMYXIN B/COLISTIN/TEICOPLANIN
51	1283082	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/CEFTAZIDIME+ AVIBACTAM/TEICOPLANIN
52	1288277	BINASAL	YES	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
53	1288236	BINASAL	YES	-	-	-	-	1	NO	NO	NO	NO	MEROPENEM/POLYMYXIN B/COLISTIN/CEFTAZIDIME+ AVIBACTAM/TEICOPLANIN
54	1250154	VENTURY	-	YES	-	-	-	2	YES	YES	NO	YES	IMEPENEM/TEICOPLANIN
55	1249527	VENTURY	-	YES	-	-	-	2	YES	YES	NO	YES	ERTAPENEM/TEICOPLANIN/FLUCONAZOLE
56	1186127	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN/LEVOFLOXACIN
57	1144420	NO	-	-	-	-	-	0	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
58	1142409	BINASAL	YES	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
59	1270370	BINASAL	YES	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/CEFTAZIDIME+ AVIBACTAM/TEICOPLANIN
60	1261314	NO	-	-	-	-	-	1	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN/VORICONAZOLE

Sr. No	MRD NO.	MEROPENEM	ERTAPENEM	IMEPENEM	PIPERACILLIN+ TAZOBACTAM	CEFAPERAZONE+SULBACTAM	POLYMYXIN B/COLISTIN	CLINDAMYCIN	TIGICYCLINE	CEFTAZIDIME+ AVIBACTAM	LINIZOLID	CLINDAMYCIN	FLUOROQUINOLONES	METROGYL	TEICOPLANIN	VANCOMYCIN	LINOZOLID	AZITHROMYCIN
1	877945	YES	-	-	-	-	YES	-	YES	YES	-	-	YES	-	YES	-	-	-
2	1137151	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
3	730414	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
4	1206753	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
5	1044183	YES	-	-	-	-	YES	YES	YES	YES	-	-	YES	-	YES	-	-	-
6	1044139	YES	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	-	-
7	935435	-	-	-	-	YES	-	-	-	-	-	-	-	-	-	-	-	-
8	1118349	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
9	1271662	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
10	1295666	YES	-	-	-	YES	YES	-	-	YES	-	-	-	-	YES	-	-	-
11	1277829	-	-	-	-	YES	-	-	-	YES	-	-	-	-	YES	-	-	-
12	1281201	YES	-	-	-	-	YES	-	-	YES	-	-	-	-	YES	-	-	-
13	1280073	-	YES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	1133809	YES	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	-	-
15	1283518	YES	-	-	-	-	YES	-	-	-	-	-	-	-	YES	-	-	-
16	1286829	-	YES	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
17	1032971	-	YES	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
18	1191338	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
19	254921	-	-	YES	-	-	-	-	YES	-	-	-	-	-	YES	-	-	-
20	118097	-	-	-	YES	-	-	-	-	-	-	-	-	-	YES	-	-	-
21	1196871	-	-	-	-	YES	-	-	-	-	-	-	-	-	YES	-	-	-
22	1270439	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
23	1126635	YES	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	-	YES
24	1056552	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
25	27034	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
26	1216377	-	-	YES	-	-	YES	-	-	-	-	-	-	-	YES	-	-	-
27	761109	-	-	-	YES	-	-	-	-	-	-	-	-	-	YES	-	-	-
28	1146315	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
29	560351	YES	-	-	-	-	YES	-	-	-	-	-	-	-	YES	-	-	-
30	1241065	-	YES	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
31	1254313	-	-	-	-	YES	-	-	-	-	-	-	-	-	YES	-	-	-
32	1264150	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
33	1239996	YES	-	-	-	-	YES	-	-	-	-	-	-	-	YES	-	-	-
34	1237859	-	-	-	-	YES	-	-	-	-	-	-	-	-	YES	-	-	-
35	1057175	YES	-	-	-	-	-	-	YES	YES	-	YES	YES	-	-	-	-	-
36	1307338	-	-	-	-	YES	-	-	-	-	-	-	-	-	YES	-	-	-
37	1305971	-	-	-	-	YES	-	-	-	-	-	-	-	-	YES	-	-	-
38	692675	YES	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	-	-
39	1301867	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
40	1114661	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
41	877946	YES	-	-	-	-	YES	-	-	YES	-	-	-	-	YES	-	-	-
42	1260749	-	-	-	-	YES	-	-	-	-	-	-	-	-	-	-	-	-
43	1217344	-	-	-	YES	-	-	-	-	-	-	-	-	-	YES	-	-	-
44	1171633	-	-	YES	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
45	1154941	-	-	-	-	YES	-	-	-	-	-	-	-	-	YES	-	-	-
46	1114931	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
47	1156334	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
48	1262068	-	-	-	YES	-	-	-	-	-	-	-	-	-	YES	-	-	-
49	1195137	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
50	1249660	YES	-	-	-	-	YES	-	-	-	-	-	-	-	YES	-	-	-
51	1283082	YES	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	-	-
52	1288277	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
53	1288236	YES	-	-	-	-	YES	-	-	YES	-	-	-	-	YES	-	-	-
54	1250154	-	-	YES	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
55	1249527	-	YES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
56	1186127	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
57	1144420	-	-	-	-	YES	-	-	-	-	-	-	-	-	YES	-	-	-
58	1142409	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
59	1270370	YES	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	-	-
60	1261314	YES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sr. No	MRD NO.	METROGYL	LEVOFLOXACIN	CASPOFUNGIN	ANIDULAFUNGIN	VORICONAZOLE	FLUCONAZOLE	Change during hospital stay	Emperical antibiotics started	Antibiotics on discharge	Antifungals (if any)	Need for Hemodialysis/ peritoneal dialysis/ CRRT/ Renal transplantation	Percutaneous nephrostomy (PCN)
1	877945	-	-	-	-	-	YES	YES	Meropenem+Teicoplanin	FAROPENEM	YES	YES	YES
2	1137151	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
3	730414	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
4	1206753	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	YES
5	1044183	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	YES	NO	NO
6	1044139	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM, VORICONAZOLE	YES	YES	NO
7	935435	-	-	-	-	-	-	NO	Cefaperazone/Sulbactam+Teicoplanin	FAROPENEM	NO	NO	NO
8	1118349	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
9	1271662	YES	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	NO	YES
10	1295666	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	-	YES	NO	NO
11	1277829	-	-	-	-	-	-	YES	Cefaperazone/sulbactam+Teicoplanin	CEFIXIME	NO	NO	NO
12	1281201	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
13	1280073	-	-	-	-	-	-	NO	Ertapenem	FAROPENEM	NO	NO	NO
14	1133809	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM, FLUCONAZOLE	YES	YES	NO
15	1283518	-	-	-	-	-	YES	YES	Meropenem+Teicoplanin	FAROPENEM, FLUCONAZOLE	YES	YES	NO
16	1286829	YES	-	-	-	-	-	NO	Ertapenem+Teicoplanin	FAROPENEM	NO	NO	NO
17	1032971	YES	YES	-	-	-	-	YES	Ertapenem+Teicoplanin	FAROPENEM	NO	NO	YES
18	1191338	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	YES	NO
19	254921	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
20	118097	-	-	-	-	-	-	NO	Piperacillin/tazobactam+Teicoplanin	CEFIXIME	NO	NO	NO
21	1196871	-	-	-	-	-	-	NO	Cefaperazone/sulbactam+Teicoplanin	CEFIXIME	NO	NO	NO
22	1270439	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
23	1126635	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	NO	YES
24	1056552	-	-	-	-	-	YES	YES	Meropenem+Teicoplanin	FAROPENEM, FLUCONAZOLE	YES	NO	NO
25	27034	-	-	-	-	YES	-	YES	Meropenem+Teicoplanin	FAROPENEM, VORICONAZOLE	YES	NO	NO
26	1216377	YES	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
27	761109	-	-	-	-	-	-	NO	Piperacillin/tazobactam+ Teicoplanin	FAROPENEM	NO	NO	NO
28	1146315	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
29	560351	-	-	-	YES	-	-	YES	Meropenem+Teicoplanin	FAROPENEM, VORICONAZOLE	YES	YES	YES
30	1241065	-	-	-	-	YES	-	YES	Ertapenem+Teicoplanin	FAROPENEM, CLINDAMYCIN	NO	YES	NO
31	1254313	-	-	-	-	-	-	NO	Cefaperazone/sulbactam+Teicoplanin	FAROPENEM	NO	NO	NO
32	1264150	-	YES	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM, LEVOFLOXACIN	NO	NO	NO
33	1239996	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
34	1237859	-	-	-	-	-	-	NO	Cefaperazone/sulbactam+Teicoplanin	CEFIXIME	NO	NO	NO
35	1057175	-	-	YES	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	YES	YES	NO
36	1307338	-	-	-	-	-	-	NO	Cefaperazone/sulbactam+Teicoplanin	FAROPENEM	NO	NO	YES
37	1305971	-	-	-	-	-	-	NO	Cefaperazone/sulbactam+Teicoplanin	FAROPENEM	NO	YES	NO
38	692675	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	YES	NO
39	1301867	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
40	1114661	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
41	877946	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	YES	YES	YES
42	1260749	-	-	-	-	-	-	NO	Cefaperazone/sulbactam+Teicoplanin	CEFUROXIME	NO	NO	NO
43	1217344	-	-	-	-	-	-	NO	Piperacillin/tazobactam+Teicoplanin	FARONEM	NO	YES	NO
44	1171633	-	-	-	-	-	-	NO	Imepenem+Teicoplanin	FAROPENEM	NO	NO	NO
45	1154941	-	-	-	-	-	-	NO	Cefaperazone/sulbactam+Teicoplanin	FAROPENEM	YES	YES	NO
46	1114931	-	-	-	-	-	YES	YES	Meropenem+Teicoplanin	FAROPENEM, FLUCONAZOLE	YES	NO	YES
47	1156334	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	YES
48	1262068	-	-	-	-	-	-	NO	Piperacillin/tazobactam+Teicoplanin	FAROPENEM	NO	YES	NO
49	1195137	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
50	1249660	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
51	1283082	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
52	1288277	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
53	1288236	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
54	1250154	-	-	-	-	-	-	NO	Imepenem+Teicoplanin	FAROPENEM	NO	YES	YES
55	1249527	-	-	-	-	-	YES	NO	Ertapenem+Teicoplanin	FAROPENEM, FLUCONAZOLE	NO	NO	NO
56	1186127	-	YES	-	-	-	-	YES	Meropenem+Teicoplanin	FARONEM, LEVOFLOXACIN,FLUCONAZOLE	YES	YES	NO
57	1144420	-	-	-	-	-	-	NO	Cefaperazone/sulbactam+Teicoplanin	FAROPENEM	NO	NO	YES
58	1142409	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
59	1270370	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
60	1261314	-	-	-	-	YES	-	YES	Meropenem+Teicoplanin	FAROPENEM, VORICONAZOLE	YES	NO	NO

Sr. No	MRD NO.	Percutaneous drainage (PCD)	DJ Stenting	Nephrectomy	Multi organ involvement	Duration of hospital stay	HOSPITAL STAY	Blood pressure	Pulse rate	RESPIRATORY RATE	Temperature	Respiratory support	FINAL OUTCOME SURVIVED	Death
1	877945	NO	NO	NO	NO	22	3	120/80	76	14	AFEBRILE	NO	YES	NO
2	1137151	NO	YES	NO	NO	7	1	120/80	74	14	AFEBRILE	NO	YES	NO
3	730414	NO	NO	NO	NO	10	2	120/80	68	14	AFEBRILE	NO	YES	NO
4	1206753	NO	NO	NO	NO	2	1	-	-	-	-	-	NO	YES
5	1044183	YES	NO	NO	YES	25	3	120/80	87	18	AFEBRILE	NO	YES	NO
6	1044139	NO	NO	NO	NO	15	2	120/80	78	14	AFEBRILE	NO	YES	NO
7	935435	NO	YES	NO	NO	10	2	120/80	85	16	AFEBRILE	NO	YES	NO
8	1118349	NO	NO	NO	NO	10	2	120/80	78	14	AFEBRILE	NO	YES	NO
9	1271662	NO	NO	NO	NO	17	2	120/80	79	16	AFEBRILE	NO	YES	NO
10	1295666	NO	NO	NO	NO	13	2	-	-	-	-	-	NO	YES
11	1277829	NO	YES	NO	NO	18	2	120/80	87	16	AFEBRILE	NO	YES	NO
12	1281201	YES	NO	NO	NO	10	2	120/80	98	18	AFEBRILE	NO	YES	NO
13	1280073	NO	NO	NO	NO	10	2	120/80	76	18	AFEBRILE	NO	YES	NO
14	1133809	NO	YES	NO	NO	24	3	120/80	87	22	AFEBRILE	NO	YES	NO
15	1283518	NO	YES	NO	YES	20	2	120/80	87	20	AFEBRILE	NO	YES	NO
16	1286829	YES	NO	NO	NO	17	2	120/80	98	18	AFEBRILE	NO	YES	NO
17	1032971	NO	NO	NO	NO	28	3	120/80	87	16	AFEBRILE	NO	YES	NO
18	1191338	NO	YES	NO	NO	12	2	120/80	75	16	AFEBRILE	NO	NO	NO
19	254921	NO	NO	NO	NO	14	2	120/80	89	16	AFEBRILE	NO	YES	NO
20	118097	NO	NO	NO	NO	15	2	130/90	97	16	AFEBRILE	NO	YES	NO
21	1196871	NO	NO	NO	NO	11	2	120/80	75	18	AFEBRILE	NO	YES	NO
22	1270439	NO	NO	NO	YES	15	2	120/80	68	16	AFEBRILE	NO	YES	NO
23	1126635	NO	NO	NO	NO	28	3	120/80	88	16	AFEBRILE	NO	YES	NO
24	1056552	NO	NO	NO	NO	19	2	120/80	98	20	AFEBRILE	NO	YES	NO
25	27034	NO	NO	NO	NO	18	2	120/80	86	14	AFEBRILE	NO	YES	NO
26	1216377	NO	YES	NO	NO	18	2	120/80	68	16	AFEBRILE	NO	YES	NO
27	761109	NO	NO	NO	NO	8	1	120/80	88	16	AFEBRILE	NO	NO	NO
28	1146315	NO	NO	NO	NO	14	2	120/80	80	14	AFEBRILE	NO	YES	NO
29	560351	NO	NO	NO	NO	30	3	120/80	86	16	AFEBRILE	NO	YES	NO
30	1241065	NO	NO	NO	NO	13	2	120/80	87	14	AFEBRILE	NO	YES	NO
31	1254313	NO	NO	NO	NO	12	2	120/80	86	14	AFEBRILE	NO	YES	NO
32	1264150	NO	YES	NO	NO	11	2	120/80	70	16	AFEBRILE	NO	YES	NO
33	1239996	NO	YES	NO	NO	10	2	120/80	78	16	AFEBRILE	NO	YES	NO
34	1237859	NO	NO	NO	NO	12	2	120/80	88	14	AFEBRILE	NO	YES	NO
35	1057175	YES	NO	NO	YES	21	3	120/80	91	14	AFEBRILE	NO	YES	NO
36	1307338	NO	NO	NO	NO	11	2	120/80	88	14	AFEBRILE	NO	YES	NO
37	1305971	NO	NO	NO	NO	8	1	120/80	78	14	AFEBRILE	NO	NO	NO
38	692675	NO	NO	NO	NO	12	2	120/80	68	14	AFEBRILE	NO	YES	NO
39	1301867	NO	NO	NO	NO	7	1	120/80	74	16	AFEBRILE	NO	YES	NO
40	1114661	NO	NO	NO	NO	12	2	120/80	78	16	AFEBRILE	NO	NO	NO
41	877946	NO	NO	NO	NO	15	2	120/80	76	16	AFEBRILE	NO	YES	NO
42	1260749	NO	NO	NO	NO	15	2	120/80	80	18	AFEBRILE	NO	YES	NO
43	1217344	NO	YES	NO	NO	12	2	120/80	78	14	AFEBRILE	NO	YES	NO
44	1171633	NO	YES	NO	NO	9	1	120/80	78	16	AFEBRILE	NO	YES	NO
45	1154941	NO	YES	NO	NO	14	2	120/80	68	16	AFEBRILE	NO	YES	NO
46	1114931	NO	NO	NO	NO	9	1	120/80	88	14	AFEBRILE	NO	YES	NO
47	1156334	NO	NO	NO	NO	9	1	120/80	78	16	AFEBRILE	NO	YES	NO
48	1262068	NO	NO	NO	NO	10	2	120/80	88	18	AFEBRILE	NO	YES	NO
49	1195137	NO	YES	NO	NO	20	2	120/80	78	18	AFEBRILE	NO	YES	NO
50	1249660	NO	YES	NO	NO	8	1	120/80	84	18	AFEBRILE	NO	YES	NO
51	1283082	NO	YES	NO	NO	17	2	120/80	74	14	AFEBRILE	NO	YES	NO
52	1288277	YES	NO	YES	NO	40	3	120/80	68	18	AFEBRILE	NO	YES	NO
53	1288236	NO	NO	NO	NO	13	2	120/80	72	16	AFEBRILE	NO	YES	NO
54	1250154	NO	NO	NO	NO	10	2	120/80	68	16	AFEBRILE	NO	YES	NO
55	1249527	NO	NO	NO	NO	9	1	120/80	78	14	AFEBRILE	NO	YES	NO
56	1186127	NO	NO	NO	NO	15	2	120/80	78	16	AFEBRILE	NO	YES	NO
57	1144420	NO	NO	NO	NO	13	2	120/80	78	18	AFEBRILE	NO	YES	NO
58	1142409	YES	YES	NO	NO	25	3	120/80	72	16	AFEBRILE	NO	YES	NO
59	1270370	NO	NO	NO	NO	22	3	120/80	78	16	AFEBRILE	NO	YES	NO
60	1261314	NO	YES	NO	NO	17	2	120/80	86	16	AFEBRILE	NO	YES	NO

Sr. No	MRD NO.	NAME	DOA	AGE	AGE GROUP	GENDER	CHIEF COMPLAINTS FEVER	FLANK/ ABDOMINAL PAIN	BURNING/ PAINFUL MICTURATION	NAUSEA/ VOMITING	DECREASE URINE OUTPUT	ALTERED SENSORIUM	OTHERS	PAST HISTORY DIABETES	HYPER TENSION	CKD	CAD	OTHERS	ALCOHOLIC	SMOKER	OTHER
61	1299600	JJ	17.05.2022	67	4	M	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO	YES	NO	NO	NO	NO
62	1301176	BS	10.05.2022	44	2	M	NO	NO	NO	YES	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
63	986940	RK	31.11.2022	48	2	M	YES	YES	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO
64	1300236	AK	07.05.2022	37	1	F	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
65	1310328	JK	08.06.2022	45	2	F	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	B.A	NO	NO	NO
66	1308827	C.S	22.10.2021	76	5	M	NO	NO	YES	NO	YES	YES	NO	YES	NO	NO	NO	HYPOTHYROID	YES	NO	NO
67	515073	P.R	27.12.2021	59	3	F	NO	YES	YES	YES	NO	NO	NO	YES	YES	YES	NO	NO	NO	NO	NO
68	1154957	K.S	07.08.2021	41	2	M	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO
69	770974	T.R.S	07.08.2021	67	4	M	YES	YES	YES	NO	YES	NO	NO	YES	YES	YES	NO	NO	NO	NO	NO
70	955547	B.D	19.05.2021	67	4	M	YES	YES	NO	NO	NO	NO	NO	YES	YES	NO	NO	RENAL STONES	YES	NO	NO
71	887311	K.S	07.04.2021	73	5	M	YES	NO	NO	YES	YES	NO	LOOSE STOOLS	NO	YES	NO	YES	NO	NO	NO	NO
72	1135202	T.K	29.12.2021	44	2	M	YES	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
73	1013620	A.K.B	16.01.2021	58	3	M	YES	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
74	999362	M.S	12.12.2020	75	5	M	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
75	998360	S.L	15.03.2022	56	3	M	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
76	1228594	Y.S	25.12.2021	25	1	M	YES	YES	NO	NO	NO	NO	SHORTNESS OF BREATH	NO	NO	NO	NO	NO	NO	NO	NO
77	1059407	J.C	25.11.2021	49	2	M	YES	YES	YES	NO	NO	NO	NO	YES	YES	NO	NO	RENAL STONES	YES	NO	NO
78	1022747	A.K	05.02.2021	50	2	F	YES	NO	YES	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
79	1138236	B.S	12.09.2021	53	3	M	YES	YES	YES	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
80	1136466	S.S	13.07.2021	57	3	M	YES	YES	YES	NO	YES	NO	NO	YES	NO	YES	NO	NO	YES	NO	NO
81	1123396	R.S	25.10.2021	70	4	M	YES	NO	YES	NO	YES	NO	NO	NO	YES	YES	NO	NO	YES	NO	NO
82	48982	N.S	28.03.2021	44	2	F	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	HYPOTHYROID	NO	NO	NO
83	1219078	R.G	06.12.2021	50	2	F	YES	YES	NO	YES	YES	NO	LOOSE STOOLS	YES	NO	NO	NO	NO	NO	NO	NO
84	1298907	G.S	05.08.2021	37	1	M	YES	YES	NO	NO	NO	NO	NO	YES	YES	YES	NO	NO	NO	NO	NO
85	965332	T.S	12.07.2021	73	5	M	YES	NO	NO	NO	YES	NO	NO	YES	YES	YES	YES	NO	NO	NO	NO
86	1005948	K.K	23.12.2020	24	1	F	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
87	990295	T.D	19.01.2021	55	3	F	YES	YES	NO	YES	YES	NO	NO	YES	NO	YES	NO	NO	NO	NO	NO
88	1029945	A.S	18.02.2021	85	6	M	YES	YES	YES	NO	YES	NO	NO	NO	YES	NO	NO	CLD	NO	NO	NO
89	836700	B.K	09.05.2021	54	3	F	YES	YES	YES	NO	YES	NO	PEDAL EDEMA	YES	NO	NO	NO	NO	NO	NO	NO
90	1121941	K.K	02.08.2021	58	3	F	YES	YES	NO	NO	NO	NO	NO	YES	YES	NO	NO	RHEUMATOID ARTHRITIS	NO	NO	NO
91	188436	M.S	27.01.2021	68	4	M	YES	NO	YES	YES	NO	NO	NO	NO	YES	NO	NO	ADENOCARCINOMA PROSTATE	YES	NO	NO
92	791445	J.P	25.11.2021	47	2	M	YES	YES	YES	NO	YES	NO	NO	YES	NO	YES	NO	NO	NO	NO	OPIOD ADDICT
93	1248894	J.S	04.02.2021	47	2	M	YES	YES	NO	YES	NO	NO	NO	YES	YES	YES	NO	NO	YES	NO	NO
94	256481	K.C	14.03.2021	75	5	F	YES	NO	YES	YES	NO	NO	NO	YES	YES	NO	NO	HYPOTHYROID	NO	NO	NO
95	938362	T.N.K	28.02.2021	84	6	M	YES	YES	NO	NO	YES	NO	LOOSE STOOLS	YES	NO	NO	NO	NO	NO	NO	NO
96	1164066	G.S	11.10.2021	81	6	M	YES	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	RENAL STONES	YES	NO	NO
97	1136864	S.S	25.10.2021	77	5	M	YES	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO
98	1028746	P.C	16.02.2021	72	5	M	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	CLD	NO	NO	NO
99	572766	S.P	12.05.2021	70	4	M	YES	YES	YES	NO	YES	NO	NO	YES	YES	YES	NO	NO	NO	NO	NO
100	996150	S.S	19.05.2021	26	1	M	YES	YES	YES	YES	NO	NO	NO	YES	NO	YES	NO	NO	YES	NO	NO
101	990135	A.K	21.01.2021	67	4	M	NO	NO	NO	YES	NO	NO	NO	YES	YES	NO	YES	NO	YES	NO	NO
102	1139083	T.K	23.11.2021	40	1	F	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
103	990344	K.K	07.07.2021	60	3	F	YES	NO	YES	NO	NO	NO	LOOSE STOOLS	NO	YES	NO	NO	NO	NO	NO	NO
104	1288278	J.K	09.05.2021	50	2	F	YES	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO
105	1010804	R.D	09.01.2021	65	4	M	NO	YES	YES	YES	YES	NO	NO	YES	YES	YES	NO	NO	YES	NO	NO
106	98434	J.S	06.06.2021	58	3	M	YES	NO	YES	YES	NO	NO	NO	YES	YES	YES	YES	NO	YES	NO	OPIOD ADDICT
107	1011436	R.K	11.01.2021	30	1	F	YES	NO	NO	YES	YES	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO
108	979181	B.K	03.01.2021	67	4	F	YES	NO	NO	YES	YES	NO	LOOSE STOOLS	NO	YES	NO	NO	NO	YES	YES	YES
109	883654	K.R	15.01.2021	81	6	F	YES	YES	NO	NO	YES	NO	SHORTNESS OF BREATH	NO	YES	NO	NO	HYPOTHYROID	NO	NO	NO
110	1204648	B.S	10.04.2021	60	3	M	YES	NO	NO	NO	YES	NO	SHORTNESS OF BREATH	YES	NO	NO	YES	NO	NO	NO	NO
111	1221390	V.G	10.12.21	60	3	M	NO	YES	NO	NO	YES	NO	NO	NO	YES	YES	YES	NO	YES	YES	NO
112	1269693	B.D	14.03.2021	68	4	F	YES	YES	NO	YES	NO	NO	LOOSE STOOLS	YES	YES	YES	NO	CVA	NO	NO	NO
113	1266056	I.S	08.03.2021	61	4	M	YES	NO	NO	NO	YES	NO	NO	YES	NO	YES	NO	NO	YES	NO	NO
114	1241688	S.P	18.02.2021	69	4	M	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	BPH	YES	NO	NO
115	1183298	K.S	1.10.2021	36	1	M	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO
116	1176165	G.S	19.09.2021	51	3	M	NO	YES	YES	NO	YES	YES	NO	YES	NO	YES	NO	NO	YES	YES	NO
117	1243040	H.K	22.01.2022	50	2	F	YES	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO
118	1314166	B.S	30.05.2021	38	1	M	YES	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
119	986869	B.S	13.11.2020	50	2	M	NO	YES	YES	NO	YES	NO	NO	YES	YES	YES	NO	NO	YES	NO	NO
120	1163382	K.K	28.08.2021	52	3	F	YES	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	HYPOTHYROID	NO	NO	NO

Sr. No	MRD NO.	Past urological intervention	PAST MEDICATION HISTORY ACE INHIBITORS	ARBs	NSAIDS	History of intake of Ayurvedic medication/ Homeopathic medication/ Self medication	SBP	DBP	Pulse	Temperature	FEVER	Respiratory rate	Pallor	Icterus	Pedal edema	LAP	JVP	Clubbing	Cyanosis	Oxygen saturation	Per abdomen	CNS
61	1299600	NO	NO	YES	NO	NO	Apr-00	Feb-00	86	AFEBRILE	1	16	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
62	1301176	NO	NO	NO	NO	NO	120	60	76	AFEBRILE	1	18	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
63	986940	NO	NO	NO	NO	NO	80	60	122	101 F	2	22	NO	NO	NO	NO	NO	NO	NO	98% MV	LEFT FLANK TENDERNESS	NAD
64	1300236	NO	NO	NO	NO	NO	120	80	78	101 F	2	18	YES	NO	YES	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
65	1310328	NO	NO	NO	NO	NO	70	50	122	102 F	2	28	NO	NO	YES	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
66	1308827	NO	NO	NO	YES	NO	120	80	88	AFEBRILE	1	18	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	E3V4M5
67	515073	NO	YES	NO	NO	NO	80	50	122	AFEBRILE	1	22	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
68	1154957	NO	NO	NO	NO	NO	100	60	98	AFEBRILE	1	20	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
69	770974	NO	NO	NO	NO	NO	100	60	98	103 F	3	20	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
70	955547	NO	NO	NO	NO	YES	150	80	98	99F	1	20	NO	NO	NO	NO	NO	NO	NO	98% BINASAL	B/L FLANKS TENDERNESS	NAD
71	887311	NO	NO	NO	NO	NO	130	80	98	99F	1	18	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
72	1135202	NO	NO	NO	NO	NO	120	80	87	99F	1	16	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
73	1013620	NO	NO	NO	NO	NO	70	50	124	101 F	2	22	NO	NO	NO	NO	NO	NO	NO	96% NRBM	RIGHT FLANK TENDERNESS	NAD
74	999362	NO	NO	NO	NO	NO	120	80	76	100 F	1	20	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
75	998360	YES	NO	NO	NO	YES	100	70	68	100 F	1	16	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
76	1228594	NO	NO	NO	NO	NO	80	60	104	101 F	2	22	NO	NO	YES	NO	NO	NO	NO	96% NRBM	RIGHT FLANK TENDERNESS	NAD
77	1059407	YES	YES	NO	NO	NO	120	80	86	101 F	2	18	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
78	1022747	NO	NO	NO	NO	NO	120	80	76	104 F	3	16	NO	NO	NO	NO	NO	NO	NO	98% BINASAL	NAD	NAD
79	1138236	NO	NO	NO	NO	NO	80	60	98	103 F	3	18	NO	NO	NO	NO	NO	NO	NO	98% VENTURY	LEFT FLANK TENDERNESS	NAD
80	1136466	NO	NO	NO	NO	NO	90	60	88	102 F	2	20	NO	NO	NO	NO	NO	NO	NO	98% BINASAL	LEFT FLANK TENDERNESS	NAD
81	1123396	YES	NO	NO	NO	NO	80	60	100	102 F	2	22	NO	NO	NO	NO	NO	NO	NO	98% VENTURY	B/L FLANKS TENDERNESS	NAD
82	48982	NO	NO	NO	NO	NO	120	80	90	100 F	1	18	NO	NO	YES	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
83	1219078	NO	NO	NO	NO	NO	120	80	78	101 F	2	16	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
84	1298907	YES	NO	NO	NO	NO	120	80	68	100 F	1	18	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
85	965332	NO	NO	NO	NO	NO	120	80	98	101 F	2	18	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
86	1005948	NO	NO	NO	YES	NO	120	80	88	103 F	3	20	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NOT ORIENTED
87	990295	NO	NO	NO	NO	NO	80	60	100	102 F	2	22	NO	NO	NO	NO	NO	NO	NO	98% MV	B/L FLANKS TENDERNESS	NAD
88	1029945	YES	NO	NO	NO	NO	90	60	88	100 F	1	16	YES	NO	NO	NO	NO	NO	NO	98% BINASAL	B/L FLANKS TENDERNESS	NAD
89	836700	YES	NO	NO	NO	NO	90	60	78	104 F	3	18	NO	NO	YES	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
90	1121941	YES	NO	NO	NO	NO	70	60	122	103 F	3	28	NO	NO	YES	NO	NO	NO	NO	98% MV	NAD	NAD
91	188436	NO	NO	NO	NO	NO	120	80	78	102 F	2	18	NO	NO	NO	NO	NO	NO	NO	98% MV	B/L FLANKS TENDERNESS	NAD
92	791445	NO	NO	NO	NO	NO	120	80	88	104 F	3	22	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
93	1248894	NO	NO	NO	NO	NO	120	80	78	102 F	2	24	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
94	256481	NO	NO	NO	YES	NO	120	80	88	102 F	2	16	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
95	938362	NO	NO	NO	NO	NO	120	80	78	103 F	3	16	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
96	1164066	NO	NO	NO	NO	NO	120	80	88	101 F	2	18	NO	NO	NO	NO	NO	NO	NO	98% RA	NAD	NAD
97	1136864	NO	NO	NO	NO	NO	120	80	78	100 F	1	18	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
98	1028746	YES	NO	NO	YES	NO	120	80	88	AFEBRILE	1	20	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
99	572766	NO	NO	NO	NO	NO	100	60	76	100 F	1	18	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
100	996150	NO	NO	NO	NO	NO	120	80	88	100 F	1	18	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
101	990135	NO	YES	NO	NO	NO	120	80	78	AFEBRILE	1	16	NO	NO	NO	NO	RAISED	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
102	1139083	NO	NO	NO	YES	NO	90	60	88	100 F	1	20	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
103	990344	NO	NO	NO	NO	NO	120	80	98	101 F	2	20	NO	NO	NO	NO	NO	NO	NO	98% VENTURY	B/L FLANKS TENDERNESS	NAD
104	1288278	NO	NO	NO	NO	NO	90	60	94	103 F	3	22	NO	NO	NO	NO	NO	NO	NO	98% RA	NAD	NAD
105	1010804	NO	NO	NO	NO	NO	120	80	78	AFEBRILE	1	14	NO	NO	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
106	98434	NO	NO	NO	YES	NO	120	80	68	101 F	2	14	NO	NO	NO	NO	RAISED	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
107	1011436	YES	NO	NO	NO	NO	120	80	88	101 F	2	16	NO	NO	YES	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
108	979181	NO	NO	YES	NO	NO	120	80	78	102 F	2	18	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
109	883654	NO	NO	NO	NO	NO	90	60	76	103 F	3	18	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NAD
110	1204648	NO	NO	NO	NO	NO	90	60	88	101 F	2	20	NO	NO	NO	NO	RAISED	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
111	1221390	NO	YES	NO	YES	NO	80	60	98	AFEBRILE	1	20	NO	NO	NO	NO	RAISED	NO	NO	98% BINASAL	LEFT FLANK TENDERNESS	NAD
112	1269693	NO	NO	NO	NO	NO	90	60	100	103 F	3	22	NO	NO	YES	NO	NO	NO	NO	98% VENTURY	B/L FLANKS TENDERNESS	NAD
113	1266056	NO	NO	NO	NO	NO	120	80	80	100 F	1	18	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
114	1241688	NO	NO	NO	NO	NO	120	80	78	AFEBRILE	1	14	YES	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NOT ORIENTED
115	1183298	YES	NO	NO	YES	NO	70	50	120	102 F	2	24	NO	NO	NO	NO	RAISED	NO	NO	98% MV	LEFT FLANK TENDERNESS	NAD
116	1176165	NO	NO	NO	NO	NO	120	80	98	AFEBRILE	1	16	NO	NO	NO	NO	NO	NO	NO	98% RA	RIGHT FLANK TENDERNESS	NOT ORIENTED
117	1243040	NO	NO	NO	NO	NO	120	80	88	101 F	2	18	NO	NO	NO	NO	NO	NO	NO	98% RA	LEFT FLANK TENDERNESS	NAD
118	1314166	NO	NO	NO	YES	NO	120	80	78	104 F	3	18	NO	NO	NO	NO	NO	NO	NO	98% BINASAL	RIGHT FLANK TENDERNESS	NAD
119	986869	NO	NO	NO	NO	NO	120	80	78	AFEBRILE	1	16	NO	NO	YES	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD
120	1163382	NO	NO	NO	YES	NO	120	80	88	100 F	1	16	NO	YES	NO	NO	NO	NO	NO	98% RA	B/L FLANKS TENDERNESS	NAD

Sr. No	MRD NO.	respiratory system	CVS	Urine routine examination	protienuria	glucosuria	pus cells	RBCs	URINE/DRAIN CULTURE	MEROPENEM	IMEPENAM	ERTAPENAM	COLISTI/POLY MYXIN B	PIPERACILLIN/TAZOBACTEM	NITROFURANTOIN	CEFAPERAZONE/SULBACTAM	TIGICYCLINE	TEICOPLANIN	VANCOMYCIN	LINIZOLID
61	1299600	NAD	NAD	-	2+	NO	15	40	KLEBSIELLA	S	S	S	S	S	S	S	-	-	-	-
62	1301176	NAD	NAD	-	3+	NO	50	60	PSEUDOMONAS	S	S	S	S	S	-	S	-	-	-	-
63	986940	NAD	NAD	-	3+	3+	6	10	KLEBSIELLA	S	S	S	S	S	S	S	-	-	-	-
64	1300236	NAD	NAD	-	TRACES	NO	NIL	NIL	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
65	1310328	NAD	NAD	-	NO	NO	60	20	E.COLI	S	S	S	S	S	S	S	-	-	-	-
66	1308827	NAD	NAD	-	1+	2+	95	NIL	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
67	515073	NAD	NAD	-	2+	2+	25	20	E.COLI	S	S	S	S	S	S	S	-	-	-	-
68	1154957	NAD	NAD	-	2+	NO	32	10	PSEUDOMONAS	S	S	S	S	R	R	S	-	-	-	-
69	770974	NAD	NAD	-	3+	2+	10	20	E.COLI	S	S	S	S	S	S	S	-	-	-	-
70	955547	NAD	NAD	-	3+	TRACE	60	5	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
71	887311	NAD	NAD	-	1+	NO	50	NIL	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
72	1135202	NAD	NAD	-	1+	TRACE	32	7	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
73	1013620	NAD	NAD	-	2+	2+	50	55	E.COLI	S	R	S	S	R	S	S	-	-	-	-
74	999362	NAD	NAD	-	2+	1+	100	70	E.COLI	S	S	S	S	S	S	S	-	-	-	-
75	998360	NAD	NAD	-	1+	NO	40	5	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
76	1228594	NAD	NAD	-	1+	NO	55	35	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
77	1059407	NAD	NAD	-	2+	3+	20	5	E.COLI	S	S	S	S	R	S	S	-	-	-	-
78	1022747	NAD	NAD	-	2+	2+	60	35	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
79	1138236	NAD	NAD	-	3+	1+	100	80	KLEBSIELLA	S	S	S	S	R	R	R	-	-	-	-
80	1136466	NAD	NAD	-	3+	3+	40	20	E.COLI	S	S	R	S	R	R	R	-	-	-	-
81	1123396	NAD	NAD	-	2+	2+	30	5	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
82	48982	NAD	NAD	-	NO	NO	40	10	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
83	1219078	NAD	NAD	-	3+	2+	30	50	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
84	1298907	NAD	NAD	-	3+	NO	90	120	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
85	965332	NAD	NAD	-	3+	2+	110	45	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
86	1005948	NAD	NAD	-	1+	NO	70	20	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
87	990295	NAD	NAD	-	3+	2+	120	70	E.COLI	S	S	S	S	R	S	S	-	-	-	-
88	1029945	NAD	NAD	-	2+	TRACE	40	15	ENTEROCOCCUS FAECALIS	-	-	-	-	-	-	-	-	R	R	S
89	836700	NAD	NAD	-	2+	2+	12	40	E.COLI	R	S	R	S	R	S	R	-	-	-	-
90	1121941	NAD	NAD	-	2+	3+	70	20	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
91	188436	NAD	NAD	-	1+	2+	50	5	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
92	791445	NAD	NAD	-	1+	1+	80	20	STAPHYLOCOCCUS AUREUS	-	-	-	-	-	-	-	-	S	S	S
93	1248894	NAD	NAD	-	2+	2+	90	20	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
94	256481	NAD	NAD	-	2+	2+	100	50	E.COLI	S	S	S	S	R	S	S	-	-	-	-
95	938362	NAD	NAD	-	1+	TRACE	30	20	E.COLI	R	R	R	S	R	R	R	S	-	-	-
96	1164066	NAD	NAD	-	2+	2+	60	10	KLEBSIELLA	R	R	R	S	R	S	R	S	-	-	-
97	1136864	NAD	NAD	-	2+	NO	40	10	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
98	1028746	NAD	NAD	-	1+	3+	60	15	PSEUDOMONAS	S	S	S	S	R	S	R	S	-	-	-
99	572766	NAD	NAD	-	2+	2+	80	40	E.COLI	S	S	S	S	R	S	S	-	-	-	-
100	996150	NAD	NAD	-	3+	TRACE	60	10	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
101	990135	B/L CREPITATIONS	NAD	-	2+	2+	100	30	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
102	1139083	NAD	NAD	-	NO	NO	50	10	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
103	990344	NAD	NAD	-	2+	NO	70	5	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
104	1288278	NAD	NAD	-	2+	1+	40	10	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
105	1010804	NAD	NAD	-	1+	1+	100	30	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
106	98434	B/L CREPITATIONS	NAD	-	2+	2+	50	10	E.COLI	S	S	S	S	S	-	S	-	-	-	-
107	1011436	NAD	NAD	-	1+	3+	60	20	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
108	979181	NAD	NAD	-	1+	NO	60	10	KLEBSIELLA	R	R	R	S	R	-	-	-	-	-	-
109	883654	NAD	NAD	-	2+	NO	70	15	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
110	1204648	B/L CREPITATIONS	NAD	-	3+	2+	20	5	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
111	1221390	B/L CREPITATIONS	NAD	-	2+	NO	45	10	E.COLI	S	S	S	S	R	R	R	-	-	-	-
112	1269693	NAD	NAD	-	2+	2+	90	20	E.COLI	S	S	S	S	S	S	S	-	-	-	-
113	1266056	NAD	NAD	-	3+	3+	60	10	KLEBSIELLA	R	R	R	S	R	R	R	-	-	-	-
114	1241688	NAD	NAD	-	NO	NO	80	20	KLEBSIELLA	S	S	S	S	R	S	R	-	-	-	-
115	1183298	B/L CREPITATIONS	NAD	-	NO	NO	90	40	E.COLI	R	R	R	S	R	R	R	-	-	-	-
116	1176165	NAD	NAD	-	2+	2+	70	35	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
117	1243040	NAD	NAD	-	1+	3+	15	3	KLEBSIELLA	S	S	S	S	R	-	R	-	-	-	-
118	1314166	NAD	NAD	-	NO	NO	70	20	NO GROWTH	-	-	-	-	-	-	-	-	-	-	-
119	986869	NAD	NAD	-	TRACES	NO	15	2	CANDIDA	-	-	-	-	-	-	-	-	-	-	-
120	1163382	NAD	NAD	-	2+	2+	60	10	CANDIDA	-	-	-	-	-	-	-	-	-	-	-

Sr. No	MRD NO.	AMIKACIN	GENTAMYCIN	FLUCONAZIOLE	VORICONAZOLE	ANIDULAFUNGIN	AMPHO-B	MICAFUNGIN	BLOOD CULTURE	MEROPENEM	IMEPENAM	ERTAPENAM	COLISTI/POLY MYXIN B	PIPERACILLIN/ TAZOBACTEM	NITROFURANT OIN	CEFAPERAZONE/S ULBACTAM	TIGICYCLINE	AMIKACIN
61	1299600	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
62	1301176	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
63	986940	-	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
64	1300236	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
65	1310328	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
66	1308827	-	-	-	-	-	-	-	E.COLI	S	S	S	S	S	S	S	-	R
67	515073	-	-	-	-	-	-	-	KLEBSIELLA	S	S	S	S	S	-	S	-	-
68	1154957	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
69	770974	-	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
70	955547	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
71	887311	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
72	1135202	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
73	1013620	-	-	-	-	-	-	-	E.COLI	S	S	S	S	R	S	S	-	R
74	999362	S	S	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
75	998360	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
76	1228594	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
77	1059407	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
78	1022747	-	-	-	S	S	S	S	E.COLI	S	S	S	S	S	S	S	-	R
79	1138236	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
80	1136466	R	R	-	-	-	-	-	KLEBSIELLA	R	R	R	S	R	R	R	-	R
81	1123396	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
82	48982	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
83	1219078	-	-	-	-	-	-	-	E.COLI	S	S	S	S	R	S	S	-	-
84	1298907	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
85	965332	-	-	R	S	S	S	S	E.COLI	S	S	S	S	S	S	S	-	R
86	1005948	-	-	R	S	S	S	S	NO GROWTH	-	-	-	-	-	-	-	-	-
87	990295	-	-	-	-	-	-	-	E.COLI	R	R	R	R	R	R	R	S	R
88	1029945	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
89	836700	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
90	1121941	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
91	188436	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
92	791445	-	S	-	-	-	-	-	E.COLI	S	S	S	S	S	S	S	-	-
93	1248894	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
94	256481	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
95	938362	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
96	1164066	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
97	1136864	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
98	1028746	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
99	572766	S	S	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
100	996150	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
101	990135	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
102	1139083	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
103	990344	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
104	1288278	-	-	-	-	-	-	-	KLEBSIELLA	S	S	S	S	S	S	S	-	S
105	1010804	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
106	98434	-	-	-	-	-	-	-	KLEBSIELLA	S	S	S	S	R	R	R	-	S
107	1011436	-	-	S	S	S	S	S	CANDIDA KEFYR	-	-	-	-	-	-	-	-	-
108	979181	R	R	-	-	-	-	-	KLEBSIELLA	S	S	S	R	S	S	S	-	-
109	883654	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
110	1204648	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
111	1221390	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
112	1269693	S	S	-	-	-	-	-	E.COLI	S	S	S	S	S	S	S	-	S
113	1266056	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
114	1241688	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
115	1183298	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
116	1176165	-	-	S	S	S	S	-	NO GROWTH	-	-	-	-	-	-	-	-	-
117	1243040	R	R	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
118	1314166	-	-	-	-	-	-	-	NO GROWTH	-	-	-	-	-	-	-	-	-
119	986869	-	-	S	S	S	S	S	NO GROWTH	-	-	-	-	-	-	-	-	-
120	1163382	-	-	S	S	S	S	S	CANDIDA	-	-	-	-	-	-	-	-	-

Sr. No	MRD NO.	GENTAMYCIN	FLUCONAZOLE	VORICONAZOLE	AMPHO B	CASPOFUNGIN	ANIDULAFUNGIN	RADIOLOGICAL FINDINGS LEFT SIDED APN	RIGHT SIDED APN	B/L APN	EPN (TOTAL)	LEFT SIDED EPN	RIGHT SIDED EPN	B/L EPN	RENAL ABSCESS	PAPILLARY NECROSIS	WAN et al TYPE 1	EPN (RADIOLOGICAL CLASSIFICATION) WAN et al TYPE 2	HUANG AND TSENG TYPE 1	HUANG AND TSENG TYPE 2
61	1299600	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
62	1301176	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
63	986940	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
64	1300236	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
65	1310328	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
66	1308827	R	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
67	515073	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
68	1154957	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
69	770974	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
70	955547	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
71	887311	-	-	-	-	-	-	-	YES	-	N	-	-	-	YES	-	-	-	-	-
72	1135202	-	-	-	-	-	-	-	YES	-	Y	YES	-	-	-	-	YES	-	-	-
73	1013620	R	-	-	-	-	-	-	-	-	Y	-	YES	-	-	-	YES	-	YES	-
74	999362	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
75	998360	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
76	1228594	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
77	1059407	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
78	1022747	R	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
79	1138236	-	-	-	-	-	-	-	-	-	Y	YES	-	-	-	-	YES	-	-	-
80	1136466	R	-	-	-	-	-	-	-	-	Y	YES	-	-	-	-	YES	-	-	-
81	1123396	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
82	48982	-	-	-	-	-	-	YES	-	-	N	-	-	-	YES	-	-	-	-	-
83	1219078	-	-	-	-	-	-	-	-	-	Y	YES	-	-	-	-	-	-	-	-
84	1298907	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
85	965332	R	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
86	1005948	-	-	-	-	-	-	-	-	-	Y	-	YES	-	-	-	YES	-	-	-
87	990295	R	-	-	-	-	-	-	-	-	Y	YES	-	-	-	-	YES	-	-	YES
88	1029945	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
89	836700	-	-	-	-	-	-	-	-	-	N	-	-	-	-	YES	-	-	-	-
90	1121941	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
91	188436	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
92	791445	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
93	1248894	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
94	256481	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
95	938362	-	-	-	-	-	-	-	-	-	Y	-	YES	-	-	-	YES	-	-	YES
96	1164066	-	-	-	-	-	-	-	-	-	Y	-	YES	-	-	-	-	-	-	-
97	1136864	-	-	-	-	-	-	-	YES	-	N	-	-	-	YES	-	-	-	-	-
98	1028746	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
99	572766	-	-	-	-	-	-	-	-	-	Y	-	-	YES	-	-	YES	-	YES	-
100	996150	-	-	-	-	-	-	-	-	-	N	-	-	-	-	YES	-	-	-	-
101	990135	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
102	1139083	-	-	-	-	-	-	-	YES	-	N	-	-	-	YES	-	-	-	-	-
103	990344	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
104	1288278	S	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
105	1010804	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
106	98434	S	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
107	1011436	-	S	S	S	S	S	-	-	YES	N	-	-	-	-	-	-	-	-	-
108	979181	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
109	883654	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
110	1204648	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
111	1221390	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
112	1269693	S	-	-	-	-	-	-	-	-	Y	-	-	YES	-	-	YES	-	YES	-
113	1266056	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
114	1241688	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
115	1183298	-	-	-	-	-	-	YES	-	-	N	-	-	-	-	-	-	-	-	-
116	1176165	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
117	1243040	-	-	-	-	-	-	-	-	-	Y	YES	-	-	-	-	YES	-	-	YES
118	1314166	-	-	-	-	-	-	-	YES	-	N	-	-	-	-	-	-	-	-	-
119	986869	-	-	-	-	-	-	-	-	YES	N	-	-	-	-	-	-	-	-	-
120	1163382	-	S	S	S	S	S	-	-	-	N	-	-	-	-	YES	-	-	-	-

Sr. No	MRD NO.	HUANG AND TSENG TYPE 3 A	HUANG AND TSENG TYPE 3B	HUANG AND TSENG TYPE 4	Hb At presentation	Hb Peak Values	Hb On outcome	TLC At presentation	TLC Peak Values	TLC On outcome	PLATELET At presentation	PLATELET Peak Values	PLATELET on outcome	INR At presentation	INR Peak Values	INR On outcome	RBS At presentation	RBS Peak Values	RBS On outcome	Ketones At presentation	Ketones Peak Values	Ketones On outcome
61	1299600	-	-	-	9.5	9.3	9.5	6.9	7.3	6.1	207	182	191	1.15	1.23	1.35	236	276	187	0.5	0.3	0.2
62	1301176	-	-	-	7.7	7.3	7.8	20	9.3	10.8	237	168	255	1.68	1.44	1.65	174	143	154	0.4	0.5	0.6
63	986940	-	-	-	10	9.6	8.7	8.4	16.9	7.7	24	60	110	1.05	1.08	1.03	256	136	176	0.5	0.4	0.3
64	1300236	-	-	-	6.7	8.4	10.5	14	16	14	396	287	260	1.63	1.64	1.54	125	166	267	0.3	0.3	0.4
65	1310328	-	-	-	8.6	8.6	7.1	24	17	12	28	110	104	1.24	1.1	0.83	100	142	102	0.1	0.2	0.3
66	1308827	-	-	-	8.5	6.8	8.3	14	13	10	166	199	192	1.23	1.24	1.27	245	275	286	0.3	0.8	0.3
67	515073	-	-	-	9.4	9	7	17	10	8	100	142	484	1.23	1.45	1.35	127	156	230	0.4	0.3	0.6
68	1154957	-	-	-	9.8	9.3	9.8	18	11	9	267	274	234	1.22	0.97	0.95	100	101	109	0.2	0.4	0.2
69	770974	-	-	-	8.6	8.4	9.1	15	7.1	8.6	150	163	218	1.13	1.09	1.23	237	289	245	0.6	0.4	0.3
70	955547	-	-	-	11.6	10.8	10.7	11	16	6	249	146	397	1.08	1.14	1.09	234	176	189	0.6	0.5	0.3
71	887311	-	-	-	8.5	11.4	11.1	12	4	4.8	222	520	177	1.11	1.21	1.23	67	87	98	0.1	0.2	0.1
72	1135202	YES	-	-	10	9.5	8.3	17.8	13.6	14	297	360	436	1.29	1.36	1.34	234	276	132	0.7	0.4	0.3
73	1013620	-	-	-	12	9	8	16	19	22	250	264	140	1.21	1.1	1.39	243	132	187	0.4	0.5	0.3
74	999362	-	-	-	11	12	14	22	16	7	230	197	190	1.15	1.16	1.17	278	246	186	0.6	0.4	0.2
75	998360	-	-	-	9.6	9.5	9.3	18	9	8	198	175	184	1.4	1.34	1.4	124	165	145	0.5	0.4	0.3
76	1228594	-	-	-	7.5	7.7	8	21	18	9	234	197	167	1.37	1.46	1.4	109	177	155	0.1	0.1	0.1
77	1059407	-	-	-	13	10.9	11	4	4.7	6	89	133	167	1.05	1.28	1.02	345	238	165	4.1	1.6	0.4
78	1022747	-	-	-	12	11.4	11.5	15.8	14	9.3	110	140	240	1.36	1.34	1.23	254	187	134	0.5	0.4	0.3
79	1138236	YES	-	-	11.3	11	12	14.2	12	8	120	156	221	1.28	1.36	1.12	235	267	131	0.4	0.3	0.2
80	1136466	-	YES	-	9	7.3	7.7	14.2	16.5	9.2	301	372	306	1.32	1.21	1.32	169	152	183	0.3	0.5	0.2
81	1123396	-	-	-	7.8	10	12	13.2	13	9	96	124	253	1.2	1.23	1.18	117	113	167	0.4	0.3	0.4
82	48982	-	-	-	9.6	7.3	8.3	18.6	7.4	4.3	139	195	214	1.39	1.07	1.08	98	96	93	0.6	0.3	0.2
83	1219078	-	-	-	11	11	9.5	9	8.9	10.6	110	100	234	1.05	1.34	1.09	267	134	123	0.6	0.3	0.5
84	1298907	-	-	-	13.3	12.9	11.1	29	14	7.5	188	202	170	1.1	1.3	1.2	189	185	134	0.5	0.5	0.3
85	965332	-	-	-	9.3	9.9	10.2	28	26	9.8	120	124	159	1.32	1.24	1.18	198	176	139	0.2	0.6	0.3
86	1005948	-	YES	-	9	8	8.4	27	16	14	100	134	136	1.3	1.31	1.26	101	102	103	0.4	0.3	0.2
87	990295	-	-	-	8.4	7.6	7.1	45	25	24	190	154	66	1.8	2.1	2.2	331	242	231	2.3	1.6	0.4
88	1029945	-	-	-	6.4	9.2	8.6	19	17	13	502	501	392	1.52	1.49	1.4	138	122	98	0.1	0.4	0.3
89	836700	-	-	-	7.7	8.6	11.1	22	27	7	486	402	362	1.32	1.36	1.22	201	178	189	0.5	0.3	0.4
90	1121941	-	-	-	7	8	7.5	31	23	5.8	167	130	151	1.34	1.12	1.2	227	261	291	0.6	0.4	0.2
91	188436	-	-	-	13.7	12	11	16.9	10	7	221	201	195	1.06	1.23	1.34	131	165	142	0.4	0.4	0.3
92	791445	-	-	-	8	9	8.2	20	16	9	154	153	256	1.3	1.27	1.28	276	209	164	0.5	0.4	0.4
93	1248894	-	-	-	8.9	8.6	8.8	14.4	13.4	11.4	512	519	481	1.32	1.36	1.28	156	167	187	0.4	0.5	0.6
94	256481	-	-	-	10	10.8	11	23	13	8	504	432	403	1.1	1.2	1.16	156	148	139	0.4	0.3	0.3
95	938362	-	-	-	7	9.9	8.3	23	18	14	516	356	327	1.35	1.34	1.3	136	128	116	0.6	0.4	0.6
96	1164066	-	-	-	8.4	8.5	7.1	42	16	7.1	296	287	241	1.51	1.34	1.4	198	203	204	0.4	0.3	0.3
97	1136864	-	-	-	9.8	8.9	8.4	12.5	8.4	4.3	207	298	301	1.01	1.37	1.21	101	98	87	0.2	0.3	0.1
98	1028746	-	-	-	11.3	11.4	10.3	10.8	11.2	7.8	244	224	327	1.23	1.24	1.12	237	287	187	0.5	0.4	0.3
99	572766	-	-	-	10.5	8.6	7.7	29	13	17	338	212	173	1.36	1.44	1.53	256	278	133	0.6	0.7	0.3
100	996150	-	-	-	10.8	10.5	10.3	18	15	7	256	239	240	1.31	1.32	1.24	450	340	231	4.3	2.1	0.6
101	990135	-	-	-	9.8	9.6	9.4	20	16	9.6	245	265	190	1.4	1.45	1.42	256	178	236	0.6	0.5	0.4
102	1139083	-	-	-	10.2	9.7	10.6	7.9	4.2	8.5	209	210	170	1.06	1.1	1.16	124	110	105	0.2	0.1	0.1
103	990344	-	-	-	14	13	12	15	9	6	112	160	170	1.03	1.05	1.2	145	148	132	0.6	0.3	0.2
104	1288278	-	-	-	9	9.2	11	11.6	10.3	13	120	130	248	1.63	1.52	1.41	184	138	163	0.5	0.3	0.2
105	1010804	-	-	-	10	9.1	8.9	12	10.5	6.8	287	230	240	1.19	1.19	1.2	149	172	193	0.3	0.2	0.4
106	98434	-	-	-	9.9	10.2	9.1	14	12	8	196	201	227	1.43	1.4	1.39	178	276	125	0.4	0.3	0.2
107	1011436	-	-	-	9	8	11	10	8	7	238	392	284	1.3	1.2	1.23	154	136	176	0.5	0.4	0.3
108	979181	-	-	-	10	9.5	9.3	19	11	7	122	167	187	12.2	1.23	1.34	99	107	123	0.2	0.3	0.3
109	883654	-	-	-	7.7	7.9	9.6	12	10	5	179	291	331	1.34	1.24	1.34	134	154	136	0.5	0.3	0.5
110	1204648	-	-	-	8.9	7.9	8.8	21	18	11.2	330	339	270	1.5	1.48	1.4	221	198	170	0.6	0.6	0.5
111	1221390	-	-	-	9.4	8	7.1	21	15	11.6	109	185	204	1.49	1.25	1.3	103	123	104	0.4	0.3	0.2
112	1269693	-	-	-	7.9	7.1	8	23	17	11	110	102	184	1.22	1.3	1.27	176	231	201	0.4	0.32	0.3
113	1266056	-	-	-	5.1	7.3	9	9	6.4	7.1	261	249	213	1.22	1.3	1.27	178	261	172	0.3	0.4	0.2
114	1241688	-	-	-	6.6	9.8	8	22	11.2	9.8	236	206	272	1.3	1.25	1.34	105	102	99	0.6	0.3	0.3
115	1183298	-	-	-	13	12.9	12	27	34	45	126	84	90	1.4	1.56	1.52	109	180	132	0.5	0.3	0.2
116	1176165	-	-	-	11	9	9.4	18	14	11	332	604	483	1.63	1.5	1.36	198	176	138	0.5	0.3	0.2
117	1243040	-	-	-	10.8	10	9.3	12.3	9.5	6.7	140	130	219	1.05	1.12	1.34	267	278	176	0.6	0.3	0.4
118	1314166	-	-	-	12.6	13.2	12	31	21	9	647	300	252	1.93	1.5	1.23	141	154	165	0.6	0.4	0.3
119	986869	-	-	-	9.7	10	8.9	19	16	7.8	317	378	333	1.19	1.28	0.95	265	234	187	0.8	0.5	0.3
120	1163382	-	-	-	8.9	8.2	11.8	3.2	13.8	13.1	120	140	190	1.9	1.4	1.2	278	187	134	0.4	0.5	0.4

Sr. No	MRD NO.	Arterial At presentation	Arterial Peak Values	Arterial On outcome	pO2 At presentation	pO2 Peak Values	pO2 On outcome	pCo2 At presentation	pCo2 Peak Values	pCo2 On outcome	Lactate At presentation	Lactate Peak Values	Lactate On outcome	HCO3 At presentation	HCO3 Peak Values	HCO3 On outcome	SO2 At presentation	SO2 Peak Values	SO2 On outcome	HEPATIC DYSFUNCTION	S. bilirubin (T) At presentation	S. bilirubin (T) Peak Values
61	1299600	7.36	7.37	7.36	96	98	96	24	25	26	0.4	0.4	0.3	26	327	28	98	97	98	NO	0.68	0.65
62	1301176	7.45	7.35	7.35	98	96	95	24	24	27	0.5	0.6	0.3	27	29	28	98	97	98	NO	0.65	0.64
63	986940	7.36	7.38	7.38	98	97	98	24	27	26	0.4	0.5	0.3	27	28	29	98	96	97	YES	3.6	1.17
64	1300236	7.4	7.39	7.38	98	97	96	26	23	28	0.4	1.7	0.4	28	26	29	98	95	97	NO	0.46	0.47
65	1310328	6.83	7.39	7.49	108	90	97	93	43	42	0.3	1.6	1.9	15	26	32	92	99	95	YES	2.7	1.36
66	1308827	7.37	7.36	7.42	98	97	96	23	25	26	0.5	0.5	0.4	34	24	25	96	97	96	NO	0.3	0.5
67	515073	7.4	7.42	7.5	151	89	73	35	27	36	4.5	2.3	1	22	17	29	99	98	97	NO	0.87	42
68	1154957	7.34	7.37	7.35	98	97	95	22	25	26	0.4	0.4	0.2	26	28	27	98	97	96	NO	0.4	0.59
69	770974	7.34	7.32	7.35	104	99	98	21	23	24	3.3	0.4	0.2	11	20	24	99	97	96	NO	0.43	0.37
70	955547	7.4	7.35	7.37	84	87	97	37	43	29	1.5	0.5	1.3	24	30	33	96	95	98	NO	0.21	0.31
71	887311	7.4	7.39	7.34	85	89	93	31	35	32	0.6	0.4	0.3	21.5	25	28	97	98	95	NO	0.41	0.43
72	1135202	7.47	7.32	7.21	87	89	98	30	35	34	0.4	0.6	0.4	21	26	25	94	96	97	YES	2.97	1.03
73	1013620	7.2	7.21	7.32	76	86	87	40	55	31	2.7	6.8	12.1	16	18	14	78	87	84	YES	1.41	0.88
74	999362	7.42	7.45	7.39	89	98	95	34	32	36	0.5	0.5	0.3	27	28	30	98	98	97	NO	0.6	0.5
75	998360	7.45	7.43	7.42	87	94	94	30	34	31	0.6	0.4	0.5	30	32	28	97	96	98	NO	0.56	0.45
76	1228594	7.31	7.35	7.4	87	91	95	30	32	28	0.4	0.2	0.5	28	30	31	87	89	95	NO	0.7	0.6
77	1059407	7.23	7.34	7.4	97	96	95	20	22	27	4.5	2.2	1.3	14	25	29	98	97	96	NO	0.8	0.6
78	1022747	7.2	7.3	7.4	88	90	94	34	32	30	0.5	0.6	0.3	16	20	23	95	96	97	NO	3.4	1.86
79	1138236	7.4	7.35	7.37	88	86	89	23	27	28	0.2	1.3	1.1	33	30	28	99	97	98	NO	0.6	0.39
80	1136466	7.45	7.43	7.41	78	79	80	23	25	26	0.4	0.5	0.3	23	27	30	97	95	98	NO	2.21	3.03
81	1123396	7.36	7.38	7.39	87	86	85	25	24	26	0.4	0.6	0.9	29	30	27	98	94	95	NO	1.13	1.1
82	48982	7.37	7.38	7.39	89	89	87	28	24	26	1.3	1.2	1.2	29	34	26	98	97	95	NO	0.22	0.39
83	1219078	7.44	7.43	7.37	80	84	84	33	27	26	2.3	1.4	1.1	35	32	28	99	97	98	NO	0.56	0.46
84	1298907	7.43	7.42	7.38	87	86	85	27	29	26	0.5	0.3	0.6	36	32	28	98	98	97	NO	3.08	2.93
85	965332	7.4	7.39	7.41	89	87	89	19	23	24	1.4	1.1	1.2	18	28	30	99	96	97	NO	1.38	0.69
86	1005948	7.29	7.31	7.4	89	93	96	25	21	26	0.6	1.1	1.3	18	26	34	98	97	98	NO	1.1	0.97
87	990295	7.2	7.13	7.3	78	79	81	21	20	18	5.6	6.4	4.5	9	18	22	98	97	96	YES	4.4	3.38
88	1029945	7.41	7.39	7.4	87	92	94	24	25	26	1.2	0.7	0.4	32	30	28	99	98	97	NO	0.61	0.52
89	836700	7.42	7.41	7.39	87	89	92	23	29	27	1.5	0.9	0.6	14	22	29	99	98	97	NO	0.39	0.28
90	1121941	7.1	7.37	7.43	67	78	81	32	30	23	4.5	2.1	1.1	9	19	27	98	97	96	YES	2.3	2.42
91	188436	7.1	7.2	7.3	87	86	87	34	29	23	0.3	0.5	0.3	11	23	29	98	97	96	NO	0.36	0.22
92	791445	7.4	7.39	7.41	91	92	93	24	26	24	0.5	0.4	0.3	28	29	30	98	97	96	NO	1.04	0.99
93	1248894	7.4	7.39	7.5	91	92	93	26	27	26	1.3	0.9	0.4	28	30	28	98	97	98	NO	0.8	0.7
94	256481	7.43	7.41	7.4	87	86	86	23	24	25	1.1	1.2	0.9	30	28	32	98	96	98	NO	0.7	0.56
95	938362	7.39	7.4	7.41	99	88	87	18	20	22	0.5	0.3	0.3	10	18	30	97	96	97	NO	0.66	0.62
96	1164066	7.4	7.41	7.35	98	96	94	23	24	22	1.1	0.9	0.4	14	20	26	98	94	96	NO	0.77	0.55
97	1136864	7.44	7.39	7.36	93	96	92	33	29	25	0.5	0.3	0.4	22	24	26	93	96	98	NO	1.06	0.87
98	1028746	7.46	7.4	7.37	81	85	88	34	32	26	2.1	0.9	0.8	24	27	30	97	98	95	NO	0.35	0.56
99	572766	7.4	7.46	7.39	89	78	82	27	30	25	1.1	0.9	0.5	19	23	28	98	97	96	NO	0.36	0.45
100	996150	7.2	7.34	7.4	87	84	83	20	22	25	2.3	1.2	0.7	10	27	29	98	97	97	NO	1.12	0.9
101	990135	7.2	7.29	7.39	87	86	85	23	24	25	0.3	0.3	0.5	17	21	32	98	98	97	NO	0.6	0.4
102	1139083	7.42	7.4	7.39	87	86	85	23	24	24	0.5	0.4	0.3	28	30	32	98	97	96	NO	2.86	0.97
103	990344	7.32	7.38	7.4	86	89	92	22	24	26	3.2	1.1	0.3	12	27	30	98	97	97	NO	1.14	0.9
104	1288278	7.26	7.37	7.41	87	86	87	24	23	25	2.6	1.2	0.2	12	28	32	97	98	97	NO	0.72	0.65
105	1010804	7.22	7.3	7.4	98	94	93	23	24	26	2.4	1	1.1	9	18	29	97	98	96	NO	0.46	0.5
106	98434	7.34	7.37	7.4	87	86	86	23	25	26	2.1	0.9	0.7	16	28	32	89	89	95	NO	0.42	0.5
107	1011436	7.27	7.36	7.46	87	85	98	23	24	25	0.5	0.4	0.3	18	22	30	98	96	96	NO	0.32	0.5
108	979181	7.47	7.42	7.39	87	86	85	23	26	27	0.5	0.4	0.2	30	27	26	98	97	96	NO	0.65	0.54
109	883654	7.4	7.5	7.4	87	97	86	24	26	27	0.5	0.6	0.3	19	28	30	99	98	97	NO	0.58	0.65
110	1204648	7.34	7.41	7.43	87	86	89	23	24	27	0.6	0.54	0.3	28	29	32	98	95	96	NO	1.11	0.73
111	1221390	7.23	7.32	7.37	85	86	85	23	28	22	3.5	1.2	0.3	28	30	32	94	93	98	NO	0.9	0.8
112	1269693	7.32	7.37	7.41	76	79	87	29	30	24	2.3	1.1	0.8	28	30	32	97	96	97	NO	0.72	0.87
113	1266056	7.1	7.3	7.4	87	86	85	25	26	27	2.2	0.9	0.7	12	28	32	98	95	94	NO	0.46	0.47
114	1241688	7.32	7.38	7.41	765	79	78	24	25	23	1.1	0.8	0.5	16	24	32	93	95	96	NO	1.4	0.46
115	1183298	7.32	7.31	7.1	87	89	86	23	22	22	24	4.6	2.5	8.2	19	14	89	97	92	YES	1.75	1.1
116	1176165	7.35	7.37	7.39	86	89	87	24	25	23	0.7	0.5	0.4	28	26	29	87	86	89	NO	0.87	1.14
117	1243040	7.37	7.38	7.42	87	86	89	27	26	23	0.4	0.4	0.8	26	28	30	98	96	97	NO	0.27	0.34
118	1314166	7.43	7.35	7.37	75	76	78	21	27	25	0.5	0.6	0.4	13	25	28	98	93	95	NO	1.56	0.78
119	986869	7.37	7.38	7.4	88	87	86	23	25	27	0.7	0.5	0.4	28	29	32	98	97	98	NO	0.26	0.42
120	1163382	7.3	7.39	7.4	98	87	93	22	23	25	0.8	0.6	0.6	11	18	28	98	97	96	NO	4.76	2.06

Sr. No	MRD NO.	S. bilirubin (T) On outcome	SGOT At presentation	SGOT Peak Values	SGOT On outcome	SGPT At presentation	SGPT Peak Values	SGPT On outcome	ALP At presentation	ALP Peak Values	ALP On outcome	Total protein At presentation	Total protein Peak Values	Total protein On outcome	S. albumin At presentation	S. albumin Peak Values	S. albumin On outcome	Blood urea At presentation	Blood urea Peak Values	Blood urea On outcome	Creatinine At presentation
61	1299600	0.46	42	41	46	41	42	47	146	156	134	8.62	7.56	8.1	3.92	3.6	3.2	54	65	34	1.91
62	1301176	0.55	17	18	26	22	27	37	209	201	165	7	7.2	7.1	3.64	3.56	3.67	211	69	145	14
63	986940	0.98	305	487	117	453	96	147	389	200	248	5.1	4.83	5.2	3.15	2.49	2.68	38	128	183	1.23
64	1300236	0.35	36	37	39	25	28	35	221	176	78	7.4	7.2	6.9	3.47	3.87	3.5	73	80	91	3.11
65	1310328	0.54	842	763	172	2253	959	345	150	149	123	5.3	4.8	5.6	2.98	2.53	2.8	209	143	71	6.28
66	1308827	0.4	11	45	34	67	45	35	123	164	124	6	6.3	6.6	3.18	3.4	3.9	227	162	68	6.38
67	515073	0.56	64	24	23	33	26	28	72	143	89	5.4	6.3	5.6	3.13	2.61	2.9	90	51	41	2.6
68	1154957	0.15	25	21	12	48	23	21	69	116	90	6.6	6.7	6.8	3.8	3.67	3.9	54	56	44	2.06
69	770974	0.22	38	15	26	10	34	67	59	78	67	6.9	6.5	6.5	3.09	3.9	3.7	95	161	181	4.14
70	955547	0.54	21	23	256	27	35	45	99	54	76	6.9	7.9	6.8	4.06	4.6	4.9	32	62	35	1.06
71	887311	0.5	45	46	47	36	37	38	155	98	87	5.1	7.5	6.8	2.81	3.5	3.9	81	60	20	2.86
72	1135202	0.36	238	129	46	45	19	28	369	192	88	6.4	5.2	7.6	2.91	3.32	4.92	57	27	25	1.87
73	1013620	1.07	240	125	145	32	28	16	374	327	606	4.9	4.4	4	2.31	1.88	1.39	138	196	194	4.6
74	999362	0.8	45	34	23	34	35	25	78	79	73	7	6.7	6.9	3	3.4	3.5	189	98	56	4
75	998360	0.34	56	57	58	34	36	37	76	68	95	5.1	4.9	4.7	2.6	2.5	2.6	20	154	101	5.8
76	1228594	0.5	45	46	47	34	35	38	105	101	78	5.6	5.3	6	3.4	4	4.1	135	72	34	1.46
77	1059407	0.6	41	43	46	30	34	35	134	176	99	4.2	4.1	4.3	2.6	2.8	2.9	32	29	24	1.47
78	1022747	0.94	36	77	31	14	17	8	201	223	232	5.3	5	5.4	2.46	2.05	2.02	85	83	20	2.23
79	1138236	0.43	10	32	43	16	19	22	116	131	115	6.1	6.3	6.4	2.44	2.4	2.5	181	153	37	12
80	1136466	1.38	30	92	36	13	30	23	459	409	329	5.7	5.09	5.8	2.09	2.03	2.21	110	69	38	5.3
81	1123396	0.8	66	52	34	54	53	23	119	89	73	6.4	6.2	6.1	3.1	2.9	2.83	143	64	55	5.4
82	48982	0.45	20	36	37	16	18	19	71	104	99	5.3	5.9	5.7	2.28	2.46	2.9	84	15	12	2.84
83	1219078	0.76	44	34	35	17	18	19	99	87	67	7.5	7.3	7.2	3.9	3.8	3.7	142	99	33	2.96
84	1298907	1.2	269	35	27	47	35	16	327	201	109	5.8	5.7	5.2	2.44	2.37	1.81	201	141	109	8.42
85	965332	0.46	460	176	32	283	98	42	164	98	67	5.5	5.3	5.1	3.48	3.07	3.5	159	274	116	5.05
86	1005948	0.75	97	54	34	76	54	32	103	98	85	6.5	6.9	6.8	3.9	4.3	4.2	148	194	80	5.32
87	990295	1.54	432	355	149	145	67	32	119	356	389	4.4	3.6	3.7	2.26	1.75	1.86	191	113	99	6.02
88	1029945	0.4	62	56	50	54	43	30	460	320	221	6.6	6.4	6.8	2.89	2.7	2.9	184	98	56	3.38
89	836700	0.43	13	14	22	11	16	20	142	132	99	6.7	5.5	6.9	2.74	2.77	3	158	61	53	5.93
90	1121941	1.5	160	145	75	110	98	26	214	98	76	6.4	5.8	5.9	3.2	2.68	2.8	120	178	68	4.7
91	188436	0.26	45	34	23	56	43	28	79	87	99	6.7	6.5	6.8	3.7	3.9	3.5	184	101	76	10.7
92	791445	0.76	56	35	34	59	45	34	101	99	76	5.2	5	5.1	2.51	2.6	2.9	97	76	66	6.2
93	1248894	0.78	27	35	41	19	28	25	99	67	61	5.8	5.9	5.7	3.9	3.8	3.7	133	132	143	6.58
94	256481	0.76	14	23	25	17	19	23	89	99	101	5.9	5.7	6.1	3.03	3.6	3.8	73	41	58	2.43
95	938362	0.5	17	23	26	12	16	18	157	99	78	5.5	5.4	5.3	2.29	2.6	2.9	155	98	54	3.14
96	1164066	0.43	40	21	20	21	18	11	157	69	60	6.5	6.7	6.9	2.42	2.91	3.1	57	21	27	1.85
97	1136864	0.69	67	65	61	38	19	19	72	58	67	6.2	5.7	5.1	3.03	2.9	2.46	85	80	23	2.99
98	1028746	0.4	56	45	34	43	28	18	70	67	65	6	5.9	5.8	2.58	2.9	3.4	120	80	48	7.42
99	572766	0.23	141	67	45	54	34	27	150	99	67	6.3	5.9	5.8	3.38	3.5	3.8	285	201	62	9.68
100	996150	0.8	65	45	34	54	34	23	99	87	96	5.9	5.2	5.4	2.9	3.1	3.3	210	150	86	9.4
101	990135	0.5	43	42	41	46	47	32	143	121	99	5.6	5.1	4.9	2.9	3.1	3.5	201	105	67	8.5
102	1139083	0.55	50	30	35	72	41	33	232	191	143	6.9	5.4	6.3	3.64	2.69	2.98	29	16	20	0.68
103	990344	0.8	73	62	54	30	32	24	91	89	86	5.8	5.9	5.6	2.98	3.01	3.2	64	96	37	2.89
104	1288278	0.64	42	45	34	30	28	27	69	72	56	5.7	5.9	6.1	2.89	3.1	3.2	52	49	24	2.24
105	1010804	0.6	14	24	25	21	25	23	435	265	99	6.7	6.9	7.1	3.2	3.1	3.6	214	157	134	8.02
106	98434	0.53	30	31	37	28	24	18	80	84	67	6	6.3	6.5	3.14	3.4	3.5	189	134	72	10.4
107	1011436	0.6	20	22	26	11	25	36	169	156	99	7	7.1	7.3	3.9	3.8	4.1	72	70	22	6.1
108	979181	0.53	52	51	43	28	27	26	87	99	76	7.1	7.4	6.9	3.15	3.67	3.9	76	76	51	28
109	883654	0.4	25	18	20	16	20	26	88	87	99	5.6	5.9	6.1	3.03	3.4	3.5	71	43	55	2.21
110	1204648	0.41	110	67	17	43	19	6	165	157	101	5.9	5.3	6.2	2.9	2.43	2.62	210	130	109	5.93
111	1221390	0.6	45	48	27	26	21	15	99	93	88	6.7	7	6.9	3.6	3.2	3.3	278	168	58	8.1
112	1269693	0.54	36	27	15	35	24	17	125	87	34	7.5	7.3	7.1	3.5	3.8	3.9	186	136	127	5.9
113	1266056	0.5	22	21	27	15	18	17	89	87	86	6.8	6.9	6.5	2.98	3.1	3.3	278	156	76	11
114	1241688	0.59	21	28	16	23	18	9	261	92	130	6.7	5.1	5.6	3.5	2.8	2.89	296	262	65	9.25
115	1183298	1.4	713	367	189	421	265	78	126	119	99	5.2	5.6	5.7	2.04	2.08	2.3	78	146	173	1.15
116	1176165	0.98	22	25	28	50	18	24	383	308	234	6.5	6.4	6.2	2.84	2.46	2.78	121	93	71	6.55
117	1243040	0.26	22	27	28	10	15	16	120	89	57	5.9	5.8	6.2	2.7	2.8	2.9	123	74	30	1.8
118	1314166	0.67	49	23	24	77	68	45	283	187	94	6.8	6.9	6.5	2.85	2.9	3.3	76	66	53	1.81
119	986869	0.3	45	34	23	65	27	17	150	120	97	6.3	6.2	6.7	3.21	3.4	3.5	140	106	68	6.55
120	1163382	0.35	253	82	40	47	56	28	882	353	280	6	5.2	3.7	2.98	2.21	2.46	87	74	48	1.78

Sr. No	MRD NO.	Creatinine Peak Values	Creatinine On outcome	AKI/ ACUTE ON CKD	SODIUM At presentation	SODIUM Peak Values	SODIUM On outcome	POTASSIUM At presentation	POTASSIUM Peak Values	POTASSIUM On outcome	S. uric acid At presentation	PCT At presentation	CRP At presentation	HbA1c At presentation	calcium At presentation	magnesium At presentation	phosphorus At presentation	Supplemental oxygen support
61	1299600	1.87	1.76	YES	140	134	137	4.23	3.9	4.23	6	6.6	200	8.8	8.7	2.4	5.3	NO
62	1301176	5.5	8.03	YES	131	139	128	5.8	4.1	5.46	11.8	0.38	159	-	9.3	5.6	5.9	NO
63	986940	1.24	6.14	YES	134	146	135	5.5	3.34	5.02	7.8	2.19	255	9.2	9.4	1.48	2.74	YES
64	1300236	3.36	2.68	YES	138	142	138	5.2	4.32	4.37	4.6	3.7	178	7.8	7.5	1.7	5.6	NO
65	1310328	3.49	1.2	YES	149	133	141	6.92	3.3	3.36	5.6	67	236	-	9	2.5	11	YES
66	1308827	3.38	1.33	YES	140	143	137	4.56	3.52	3.6	4.6	34	343	7.6	7.8	3.6	6.3	NO
67	515073	1.1	1.08	YES	130	138	133	3.9	3.48	4.4	4.5	60	232	7.5	8.3	2.27	4.51	YES
68	1154957	2.25	1.69	YES	133	140	138	3.67	4.21	4.08	5.5	23	117	-	9.1	2.09	3	NO
69	770974	6.86	6.33	YES	134	132	133	5.57	5.1	4.7	5.4	13	248	9.4	8.6	1.7	3.95	NO
70	955547	1.02	0.73	NO	142	133	139	4.44	4.05	3.6	6.4	3.7	176	8.8	8.1	3.96	3.7	YES
71	887311	1.89	0.73	YES	134	139	139	4.51	4.7	3.8	4.6	4.89	245	-	7.6	3.6	5.8	YES
72	1135202	1.63	1.15	YES	132	142	138	4.59	4.18	3.71	4.9	0.93	234	7.9	7.8	3.1	4.9	NO
73	1013620	5.8	6.8	YES	127	135	132	5.18	5.31	3.13	8.9	78	431	-	7.7	2.5	10	YES
74	999362	2.6	1.02	YES	134	135	137	4.7	4.4	3.9	6.1	6	166	8.6	7.8	2.5	4.8	NO
75	998360	2.2	0.65	YES	134	145	144	4.3	4.2	3.6	5.7	65	154	-	8.6	4.7	8.6	NO
76	1228594	1	0.66	NO	140	135	134	4.72	4.32	4.5	3.6	2.1	95	-	8.7	2.6	5.6	YES
77	1059407	1.01	0.85	NO	133	135	136	4.72	4.21	4.5	4.6	0.17	35	8.5	9.6	1.68	3.1	NO
78	1022747	1.19	0.86	YES	138	141	134	4.7	3.49	4.7	-	62	65	8.8	7.3	1.41	4.9	YES
79	1138236	5.07	1.8	YES	126	129	141	5.15	4.5	4.2	10.3	11	54	9.5	7.9	2.54	4.63	YES
80	1136466	3.37	1.75	YES	124	138	135	4.69	3.58	3.6	7.4	6.7	132	7.6	8.9	3.42	1.01	YES
81	1123396	3.8	2.78	YES	125	133	142	2.5	4.04	3.5	7.4	14	99	-	7.7	1.68	4.5	YES
82	48982	0.67	0.37	YES	124	139	140	4.25	3.78	3.9	5.5	7.63	89	-	7.7	2.3	4.3	NO
83	1219078	1.2	0.81	YES	134	136	139	4.01	3.95	4.2	4.5	20	137	8.6	8.5	1.8	6.5	NO
84	1298907	6.74	5.9	YES	138	139	130	6.07	5.5	5.3	4.5	2.63	337	9.4	8.7	3.35	7.9	NO
85	965332	3.89	2.03	YES	119	131	132	5.5	4.98	4.35	7.7	98	187	11.7	8.7	1.73	2.32	NO
86	1005948	3.98	2.99	YES	150	138	140	5.1	3.8	4.2	6.7	9.84	228	-	8.6	1.95	4.8	NO
87	990295	4.68	3.61	YES	134	127	140	3.97	3.79	2.78	8.8	100	225	9.8	7.3	1.44	6.3	YES
88	1029945	2.1	1.3	YES	126	131	135	4.36	4.2	4.1	8.8	67	272	6.2	93	1.6	7	YES
89	836700	3.97	3.59	YES	126	136	140	5.23	3.34	3.43	3.6	3	85	8.9	8.9	1.9	6.7	NO
90	1121941	2.37	1.45	YES	142	133	136	4	4.32	3.8	5.6	100	316	11.3	8.4	2.1	6.9	YES
91	188436	5.37	1.18	YES	124	139	140	6.41	4.05	4.18	7.8	1.2	227	-	8.9	1.5	8.5	YES
92	791445	3.13	2.22	YES	120	133	135	4.4	4.3	4.5	5.6	30	134	7.7	8	1.41	1.49	NO
93	1248894	5.95	5.67	YES	130	135	134	4.69	4.5	4.1	5.7	4.3	289	11.9	8.2	3.9	4.6	YES
94	256481	1.67	1.49	YES	122	139	139	5.5	5.01	4.6	7	19	186	11.2	7.8	1.52	2.9	NO
95	938362	1.35	1.05	YES	142	145	146	6.1	3.9	3.45	10.6	0.61	78	8.9	7.7	2.24	4.43	NO
96	1164066	0.85	0.77	YES	128	132	139	3.99	3.3	4.3	10.8	34	161	9.7	8.6	1.56	4.4	NO
97	1136864	2.19	0.82	YES	123	140	134	4.24	3.61	3.94	5.8	15	339	-	8.9	1.7	6.7	NO
98	1028746	7.04	2.07	YES	133	141	137	4.52	4.36	3.59	94	87	96	9.6	7.7	2.61	6.5	NO
99	572766	4.4	2.35	YES	138	135	131	5.6	4.6	4.34	6.4	100	67	8.9	6.7	2.6	7.8	NO
100	996150	5.3	3.7	YES	154	145	142	5.3	4.6	4.3	7.8	87	276	14.1	7.6	1.56	7.6	NO
101	990135	5.4	1.6	YES	143	135	137	6.7	5.3	4.43	5.8	87	176	9.7	8.6	1.6	9.5	NO
102	1139083	0.54	0.46	NO	140	141	138	3.47	4.1	4.2	5.7	0.26	56	-	8.1	2.3	1.6	NO
103	990344	2.04	0.81	YES	120	133	141	2.87	2.94	4.84	5.7	31	87	-	6.8	1.81	2.7	YES
104	1288278	1.33	1.31	YES	140	141	138	4.61	3.58	4.8	4.5	59	261	8.9	7.6	2.1	6.8	NO
105	1010804	5.5	5.07	YES	128	130	126	7.6	6	4.3	7.9	1.13	69	11.5	9.3	2.6	7.3	NO
106	98434	7.5	4.9	YES	124	133	138	4.4	4.4	4.1	5.7	1.2	76	9.6	8.6	1.7	6.7	NO
107	1011436	3.6	0.98	YES	134	139	136	4.6	3.6	3.7	6.7	7.6	67	8.9	8.5	2.1	5	NO
108	979181	2.11	1.5	YES	0.8	136	135	136	3.51	3.38	3.6	8.5	302	-	7.5	2.1	6.7	NO
109	883654	1.15	1.12	YES	134	139	142	3.6	4.07	4.8	7.8	45	201	-	8.6	1.5	7.6	NO
110	1204648	4.68	2.08	YES	129	136	134	4.74	4.6	3.6	7.6	100	165	7.9	8.7	1.7	6.8	NO
111	1221390	5.17	1.93	YES	143	142	140	4.7	3.38	3.71	6.7	87	156	5.7	8.7	1.89	5.39	YES
112	1269693	4.21	4.02	YES	140	131	130	7.1	6.4	4.82	7.5	64	198	8.9	8.3	2.9	3.14	YES
113	1266056	7.4	4.1	YES	123	135	138	6.09	5.5	4.7	9.6	2.04	187	9.7	8.5	2.61	4.72	NO
114	1241688	3.8	1.9	YES	138	137	139	5.9	5.11	3.9	4.7	76	387	-	8.7	2.11	4.59	YES
115	1183298	2.12	3.83	YES	125	127	134	3.74	4.5	6.6	6.7	25	342	-	7.8	2.4	3.19	YES
116	1176165	3.92	3.39	YES	126	143	137	4.86	5.47	5.31	5.7	1.09	247	8.9	9.1	1.84	5.2	NO
117	1243040	1.11	0.66	YES	130	139	131	4.4	3.59	4.34	4.6	18	187	11.4	8.4	2.02	1.94	NO
118	1314166	1.61	0.76	YES	123	134	138	5.4	5.1	4.5	5.8	1.73	98	-	8.2	2.08	2.27	YES
119	986869	4.43	3.12	YES	122	124	133	5.72	4.9	4.5	7.8	0.67	76	9.7	8.3	2.56	6.8	NO
120	1163382	1.37	1	YES	141	145	148	5.5	4.2	4.64	5.6	4.54	67	9.8	8.2	1.98	4.83	NO

Sr. No	MRD NO.	TYPE OF RESPIRATORY SUPPORT	BINASAL	VENTURY	NRBM	NIV	MECHANICAL VENTILATION	Q SOFA SCORE	SEPSIS	ICU requirement	Mechanical ventilation	Need of inotropes/ SHOCK	ANTI-BIOTICS GIVEN IN THE HOSPITAL
61	1299600	NO	-	-	-	-	-	1	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
62	1301176	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN/FLUCONAZOLE
63	986940	MECHANICAL VENTILATION	-	-	-	-	YES	2	YES	YES	YES	YES	MEROPENEM/POLYMYXIN B/COLISTIN/TEICOPLANIN
64	1300236	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
65	1310328	MECHANICAL VENTILATION	-	-	-	-	YES	2	YES	YES	YES	YES	MEROPENEM/POLYMYXIN B/COLISTIN/TEICOPLANIN
66	1308827	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
67	515073	MECHANICAL VENTILATION	-	-	-	-	YES	2	YES	YES	YES	YES	MEROPENEM/TEICOPLANIN/LEVOFLOXACIN
68	1154957	NO	-	-	-	-	-	1	NO	NO	NO	YES	MEROPENEM/TEICOPLANIN
69	770974	NO	-	-	-	-	-	1	NO	YES	NO	YES	MEROPENEM/POLYMYXIN B/COLISTIN/TEICOPLANIN
70	955547	BINASAL	YES	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
71	887311	BINASAL	YES	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
72	1135202	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
73	1013620	MECHANICAL VENTILATION	-	-	-	-	YES	2	YES	YES	YES	YES	POLYMYXIN B/COLISTIN/TIGICYCLINE/TEICOPLANIN/VORICONAZOLE
74	999362	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
75	998360	NO	-	-	-	-	-	1	NO	NO	NO	YES	PIPERACILLIN+ TAZOBACTAM/TEICOPLANIN
76	1228594	NRBM	-	-	YES	-	-	2	YES	YES	NO	YES	MEROPENEM/TEICOPLANIN
77	1059407	NO	-	-	-	-	-	0	NO	NO	NO	NO	IMEPENEM/TEICOPLANIN
78	1022747	BINASAL	YES	-	-	-	-	0	NO	NO	NO	NO	IMEPENEM/TEICOPLANIN
79	1138236	VENTURY	-	YES	-	-	-	1	NO	YES	NO	YES	MEROPENEM/TEICOPLANIN/LEVOFLOXACIN
80	1136466	BINASAL	YES	-	-	-	-	1	NO	NO	NO	YES	IMEPENEM/POLYMYXIN B/COLISTIN/TEICOPLANIN
81	1123396	VENTURY	-	YES	-	-	-	2	YES	YES	NO	YES	MEROPENEM/TEICOPLANIN
82	48982	NO	-	-	-	-	-	0	NO	NO	NO	NO	IMEPENEM/TEICOPLANIN
83	1219078	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN/METROGYL
84	1298907	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
85	965332	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TIGICYCLINE/TEICOPLANIN
86	1005948	NO	-	-	-	-	-	1	NO	NO	NO	NO	MEROPENEM/LINIZOLID/TEICOPLANIN
87	990295	MECHANICAL VENTILATION	-	-	-	-	YES	2	YES	YES	YES	YES	MEROPENEM/POLYMYXIN B/COLISTIN/TEICOPLANIN
88	1029945	BINASAL	YES	-	-	-	-	1	NO	NO	NO	YES	MEROPENEM/TEICOPLANIN
89	836700	NO	-	-	-	-	-	1	NO	NO	NO	YES	MEROPENEM/CEFTAZIDIME+ AVIBACTAM/CLINDAMYCIN/TEICOPLANIN
90	1121941	MECHANICAL VENTILATION	-	-	-	-	YES	1	NO	YES	YES	YES	MEROPENEM/POLYMYXIN B/COLISTIN/TIGICYCLINE/TEICOPLANIN
91	188436	MECHANICAL VENTILATION	-	-	-	-	YES	0	NO	YES	YES	NO	MEROPENEM/TEICOPLANIN/AZITHROMYCIN
92	791445	NO	-	-	-	-	-	1	NO	NO	NO	NO	IMEPENEM/TEICOPLANIN
93	1248894	BINASAL	YES	-	-	-	-	1	NO	NO	NO	NO	PIPERACILLIN+ TAZOBACTAM/TEICOPLANIN/LINOZOLID
94	256481	NO	-	-	-	-	-	0	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
95	938362	NO	-	-	-	-	-	0	NO	NO	NO	NO	IMEPENEM/TIGICYCLINE/TEICOPLANIN
96	1164066	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
97	1136864	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/METROGYL/TEICOPLANIN
98	1028746	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/POLYMYXIN B/COLISTIN/TEICOPLANIN
99	572766	NO	-	-	-	-	-	1	NO	NO	NO	YES	MEROPENEM/TEICOPLANIN
100	996150	NO	-	-	-	-	-	0	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
101	990135	NO	-	-	-	-	-	0	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
102	1139083	NO	-	-	-	-	-	1	NO	NO	NO	YES	MEROPENEM/TEICOPLANIN
103	990344	VENTURY	-	YES	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
104	1288278	NO	-	-	-	-	-	2	YES	NO	NO	YES	MEROPENEM/TEICOPLANIN
105	1010804	NO	-	-	-	-	-	0	NO	NO	NO	NO	PIPERACILLIN+ TAZOBACTAM/TEICOPLANIN
106	98434	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
107	1011436	NO	-	-	-	-	-	0	NO	NO	NO	NO	CEFAPERAZONE+SULBACTAM/TEICOPLANIN
108	979181	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
109	883654	NO	-	-	-	-	-	1	NO	NO	NO	YES	MEROPENEM/TEICOPLANIN
110	1204648	NO	-	-	-	-	-	1	NO	NO	NO	YES	ERTAPENEM/TEICOPLANIN
111	1221390	BINASAL	YES	-	-	-	-	1	NO	NO	NO	YES	MEROPENEM/TEICOPLANIN/METROGYL
112	1269693	BINASAL	YES	-	-	-	-	2	YES	NO	NO	YES	MEROPENEM/TEICOPLANIN/LEVOFLOXACIN
113	1266056	NO	-	-	-	-	-	0	NO	NO	NO	NO	IMEPENEM/CLINDAMYCIN/TEICOPLANIN
114	1241688	BINASAL	YES	-	-	-	-	1	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
115	1183298	MECHANICAL VENTILATION	-	-	-	-	YES	2	YES	YES	YES	YES	MEROPENEM/POLYMYXIN B/COLISTIN/TEICOPLANIN
116	1176165	NO	-	-	-	-	-	1	NO	NO	NO	NO	PIPERACILLIN+ TAZOBACTAM/TEICOPLANIN
117	1243040	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
118	1314166	BINASAL	YES	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TEICOPLANIN
119	986869	NO	-	-	-	-	-	0	NO	NO	NO	NO	ERTAPENEM/TEICOPLANIN
120	1163382	NO	-	-	-	-	-	0	NO	NO	NO	NO	MEROPENEM/TIGICYCLINE/TEICOPLANIN/CASPOFUNGIN

Sr. No	MRD NO.	MEROPENEM	ERTAPENEM	IMEPENEM	PIPERACILLIN+ TAZOBACTAM	CEFAPERAZONE+SULBACTAM	POLYMYXIN B/COLISTIN	CLINDAMYCIN	TIGICYCLINE	CEFTAZIDIME+ AVIBACTAM	LINIZOLID	CLINDAMYCIN	FLUOROQUINOLONES	METROGYL	TEICOPLANIN	VANCOMYCIN	LINOZOLID	AZITHROMYCIN
61	1299600	-	-	-	-	YES	-	-	-	-	-	-	-	-	-	-	-	-
62	1301176	YES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63	986940	YES	-	-	-	-	YES	-	-	-	-	-	-	-	YES	-	-	-
64	1300236	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
65	1310328	YES	-	-	-	-	YES	-	-	-	-	-	-	-	YES	-	-	-
66	1308827	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
67	515073	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
68	1154957	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
69	770974	YES	-	-	-	-	YES	-	-	-	-	-	-	-	YES	-	-	-
70	955547	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
71	887311	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
72	1135202	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
73	1013620	-	-	-	-	-	YES	-	YES	-	-	-	-	-	YES	-	-	-
74	999362	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
75	998360	-	-	-	YES	-	-	-	-	-	-	-	-	-	YES	-	-	-
76	1228594	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
77	1059407	-	-	YES	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
78	1022747	-	-	YES	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
79	1138236	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
80	1136466	-	-	YES	-	-	YES	-	-	-	-	-	-	-	YES	-	-	-
81	1123396	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
82	48982	-	-	YES	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
83	1219078	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
84	1298907	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
85	965332	YES	-	-	-	-	-	-	YES	-	-	-	-	-	YES	-	-	-
86	1005948	YES	-	-	-	-	-	-	-	-	YES	-	-	-	YES	-	-	-
87	990295	YES	-	-	-	-	YES	-	-	-	-	-	-	-	YES	-	-	-
88	1029945	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
89	836700	YES	-	-	-	-	-	-	-	YES	-	YES	-	-	YES	-	-	-
90	1121941	YES	-	-	-	-	YES	-	YES	-	-	-	-	-	-	-	-	-
91	188436	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	YES
92	791445	-	-	YES	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
93	1248894	-	-	-	YES	-	-	-	-	-	-	-	-	-	-	-	YES	-
94	256481	-	-	-	-	YES	-	-	-	-	-	-	-	-	YES	-	-	-
95	938362	-	-	YES	-	-	-	-	YES	-	-	-	-	-	-	-	-	-
96	1164066	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
97	1136864	YES	-	-	-	-	-	-	-	-	-	-	-	YES	YES	-	-	-
98	1028746	YES	-	-	-	-	YES	-	-	-	-	-	-	-	YES	-	-	-
99	572766	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
100	996150	-	-	-	-	YES	-	-	-	-	-	-	-	-	YES	-	-	-
101	990135	-	-	-	-	YES	-	-	-	-	-	-	-	-	-	-	-	-
102	1139083	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
103	990344	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
104	1288278	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
105	1010804	-	-	-	YES	-	-	-	-	-	-	-	-	-	YES	-	-	-
106	98434	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
107	1011436	-	-	-	-	YES	-	-	-	-	-	-	-	-	YES	-	-	-
108	979181	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
109	883654	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
110	1204648	-	YES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
111	1221390	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
112	1269693	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
113	1266056	-	-	YES	-	-	-	YES	-	-	-	-	-	-	-	-	-	-
114	1241688	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
115	1183298	YES	-	-	-	-	YES	-	-	-	-	-	-	-	YES	-	-	-
116	1176165	-	-	-	YES	-	-	-	-	-	-	-	-	-	YES	-	-	-
117	1243040	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
118	1314166	YES	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	-	-
119	986869	-	YES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	1163382	YES	-	-	-	-	-	-	YES	-	-	-	-	-	YES	-	-	-

Sr. No	MRD NO.	METROGYL	LEVOFLOXACIN	CASPOFUNGIN	ANIDULAFUNGIN	VORICONAZOLE	FLUCONAZOLE	Change during hospital stay	Emperical antibiotics started	Antibiotics on discharge	Antifungals (if any)	Need for Hemodialysis/ peritoneal dialysis/ CRRT/ Renal transplantation	Percutaneous nephrostomy (PCN)
61	1299600	-	-	-	-	-	-	NO	Cefaperazone/sulbactam+Teicoplanin	FAROPENEM	NO	NO	NO
62	1301176	-	-	-	-	-	YES	NO	Meropenem+Teicoplanin	FAROPENEM, VORICONAZOLE	YES	YES	YES
63	986940	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	-	YES	YES	NO
64	1300236	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
65	1310328	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	YES	NO
66	1308827	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	YES	NO
67	515073	-	YES	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM, LEVOFLOXACIN	NO	NO	NO
68	1154957	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
69	770974	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
70	955547	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM, LEVOFLOXACIN	NO	NO	NO
71	887311	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM, LINIZOLID, NITROFURANTOIN	NO	NO	NO
72	1135202	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
73	1013620	-	-	-	-	YES	-	YES	Meropenem+Teicoplanin	-	YES	YES	NO
74	999362	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
75	998360	-	-	-	-	-	-	NO	Piperacillin/tazobactam+Teicoplanin	FAROPENEM	NO	NO	B/L
76	1228594	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
77	1059407	-	-	-	-	-	-	NO	Imepenem+Teicoplanin	FAROPENEM	NO	NO	NO
78	1022747	-	-	-	-	-	-	NO	Imepenem+Teicoplanin	FAROPENEM	NO	NO	NO
79	1138236	-	YES	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	YES	NO
80	1136466	-	-	-	-	-	-	YES	Imepenem+Teicoplanin	FAROPENEM, LEVOFLOXACIN	NO	YES	NO
81	1123396	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
82	48982	-	-	-	-	-	-	NO	Imepenem+Teicoplanin	FAROPENEM	NO	NO	NO
83	1219078	YES	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
84	1298907	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
85	965332	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	YES	NO
86	1005948	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM, LINIZOLID	NO	NO	NO
87	990295	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	-	NO	YES	NO
88	1029945	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
89	836700	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	YES	NO
90	1121941	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	YES	NO	NO
91	188436	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	YES	YES
92	791445	-	-	-	-	-	-	NO	Imepenem+Teicoplanin	FAROPENEM	NO	YES	NO
93	1248894	-	-	-	-	-	-	YES	Piperacillin/tazobactam+Teicoplanin	FAROPENEM	NO	NO	NO
94	256481	-	-	-	-	-	-	NO	Cefaperazone/sulbactam+Teicoplanin	FAROPENEM	NO	NO	NO
95	938362	-	-	-	-	-	-	YES	Imepenem+Teicoplanin	FAROPENEM	NO	NO	NO
96	1164066	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
97	1136864	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
98	1028746	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM	NO	YES	NO
99	572766	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	YES	NO
100	996150	-	-	-	-	-	-	YES	Cefaperazone/sulbactam+Teicoplanin	FAROPENEM	NO	YES	YES
101	990135	-	-	-	-	-	-	NO	Cefaperazone/sulbactam+Teicoplanin	FAROPENEM	NO	YES	NO
102	1139083	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
103	990344	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
104	1288278	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
105	1010804	-	-	-	-	-	-	NO	Piperacillin/tazobactam+Teicoplanin	FAROPENEM	NO	YES	YES
106	98434	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	YES	NO
107	1011436	-	-	-	-	-	-	YES	Cefaperazone/sulbactam+Teicoplanin	FAROPENEM	YES	YES	NO
108	979181	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
109	883654	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
110	1204648	-	-	-	-	-	-	NO	Ertapenem+Teicoplanin	FAROPENEM	NO	NO	NO
111	1221390	YES	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	YES	NO
112	1269693	-	YES	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM, LEVOFLOXACIN	NO	YES	NO
113	1266056	-	-	-	-	-	-	NO	Imepenem+Teicoplanin	FAROPENEM, LINIZOLID	NO	YES	NO
114	1241688	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	YES	NO
115	1183298	-	-	-	-	-	-	YES	Meropenem+Teicoplanin	-	YES	YES	NO
116	1176165	-	-	-	-	-	-	NO	Piperacillin/tazobactam+Teicoplanin	FAROPENEM	NO	NO	NO
117	1243040	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	YES
118	1314166	-	-	-	-	-	-	NO	Meropenem+Teicoplanin	FAROPENEM	NO	NO	NO
119	986869	-	-	-	-	-	-	NO	Ertapenem+Teicoplanin	FAROPENEM	NO	YES	NO
120	1163382	-	-	YES	-	-	-	YES	Meropenem+Teicoplanin	FAROPENEM, LEVOFLOXACIN	YES	NO	YES

Sr. No	MRD NO.	Percutaneous drainage (PCD)	DJ Stenting	Nephrectomy	Multi organ involvement	Duration of hospital stay	HOSPITAL STAY	Blood pressure	Pulse rate	RESPIRATORY RATE	Temperature	Respiratory support	FINAL OUTCOME SURVIVED	Death
61	1299600	NO	NO	NO	NO	17	2	120/80	78	16	AFEBRILE	NO	YES	NO
62	1301176	YES	NO	NO	NO	15	2	120/80	68	18	AFEBRILE	NO	YES	NO
63	986940	NO	NO	NO	YES	27	3	-	-	-	-	-	NO	YES
64	1300236	NO	YES	NO	NO	14	2	120/80	78	18	AFEBRILE	NO	YES	NO
65	1310328	YES	NO	NO	YES	29	3	120/80	76	16	AFEBRILE	NO	YES	NO
66	1308827	YES	NO	NO	NO	14	2	120/80	79	14	AFEBRILE	NO	YES	NO
67	515073	NO	NO	NO	NO	17	2	130/80	82	16	AFEBRILE	NO	YES	NO
68	1154957	NO	YES	NO	NO	14	2	120/80	68	14	AFEBRILE	NO	YES	NO
69	770974	NO	NO	NO	NO	18	2	120/80	76	16	AFEBRILE	NO	YES	NO
70	955547	NO	NO	NO	NO	12	2	120/80	78	14	AFEBRILE	NO	YES	NO
71	887311	NO	NO	NO	NO	14	2	120/80	78	16	AFEBRILE	NO	YES	NO
72	1135202	NO	NO	NO	YES	16	2	120/80	87	14	AFEBRILE	NO	YES	NO
73	1013620	NO	NO	NO	YES	24	3	-	-	-	-	-	NO	YES
74	999362	YES	NO	NO	NO	14	2	120/80	88	16	AFEBRILE	NO	YES	NO
75	998360	NO	NO	NO	NO	16	2	120/80	76	18	AFEBRILE	NO	YES	NO
76	1228594	NO	NO	NO	NO	12	2	120/80	66	16	AFEBRILE	NO	YES	NO
77	1059407	NO	NO	NO	NO	10	2	120/80	86	16	AFEBRILE	NO	NO	NO
78	1022747	NO	NO	NO	NO	14	2	120/80	88	18	AFEBRILE	NO	YES	NO
79	1138236	YES	NO	NO	NO	22	3	120/80	66	14	AFEBRILE	NO	YES	NO
80	1136466	YES	NO	NO	NO	20	2	120/80	86	18	AFEBRILE	NO	YES	NO
81	1123396	NO	YES	NO	NO	18	2	120/80	66	16	AFEBRILE	NO	YES	NO
82	48982	NO	NO	NO	NO	12	2	120/80	78	14	AFEBRILE	NO	YES	NO
83	1219078	NO	NO	NO	NO	10	2	120/80	68	14	AFEBRILE	NO	YES	NO
84	1298907	NO	NO	NO	NO	12	2	120/80	78	18	AFEBRILE	NO	YES	NO
85	965332	NO	YES	-	NO	10	2	120/80	76	16	AFEBRILE	NO	YES	NO
86	1005948	YES	NO	NO	NO	18	2	120/80	78	14	AFEBRILE	NO	YES	NO
87	990295	YES	NO	NO	YES	22	3	-	-	-	-	-	NO	YES
88	1029945	NO	YES	NO	NO	18	2	120/80	78	14	AFEBRILE	NO	YES	NO
89	836700	NO	NO	NO	NO	12	2	120/80	80	16	AFEBRILE	NO	YES	NO
90	1121941	NO	YES	NO	YES	26	3	120/80	68	18	AFEBRILE	NO	YES	NO
91	188436	NO	YES	NO	NO	28	3	120/80	98	16	AFEBRILE	NO	YES	NO
92	791445	NO	NO	NO	NO	18	2	120/80	92	18	AFEBRILE	NO	YES	NO
93	1248894	NO	YES	NO	NO	18	2	120/80	78	18	AFEBRILE	NO	YES	NO
94	256481	NO	YES	NO	NO	10	2	120/80	92	16	AFEBRILE	NO	YES	NO
95	938362	NO	YES	NO	NO	22	3	120/80	88	14	AFEBRILE	NO	YES	NO
96	1164066	NO	NO	NO	NO	18	2	120/80	94	14	AFEBRILE	NO	YES	NO
97	1136864	NO	NO	NO	NO	14	2	120/80	88	16	AFEBRILE	NO	YES	NO
98	1028746	NO	YES	NO	NO	20	2	120/80	83	15	AFEBRILE	NO	YES	NO
99	572766	NO	B/L	NO	NO	16	2	120/80	88	16	AFEBRILE	NO	YES	NO
100	996150	NO	YES	NO	NO	18	2	120/80	86	14	AFEBRILE	NO	YES	NO
101	990135	NO	NO	NO	NO	10	2	120/80	68	14	AFEBRILE	NO	YES	NO
102	1139083	NO	NO	NO	NO	12	2	120/80	88	14	AFEBRILE	NO	YES	NO
103	990344	NO	NO	NO	NO	14	2	120/80	83	14	AFEBRILE	NO	YES	NO
104	1288278	YES	NO	NO	NO	14	2	120/80	78	16	AFEBRILE	NO	YES	NO
105	1010804	NO	NO	NO	NO	16	2	120/80	68	14	AFEBRILE	NO	YES	NO
106	98434	NO	YES	NO	NO	18	2	120/80	70	14	AFEBRILE	NO	YES	NO
107	1011436	NO	YES	NO	NO	12	2	120/80	78	16	AFEBRILE	NO	YES	NO
108	979181	NO	YES	NO	NO	18	2	120/80	76	18	AFEBRILE	NO	YES	NO
109	883654	NO	NO	NO	NO	14	2	120/80	84	16	AFEBRILE	NO	YES	NO
110	1204648	NO	YES	NO	NO	16	2	120/80	76	14	AFEBRILE	NO	YES	NO
111	1221390	NO	YES	NO	NO	20	2	120/80	74	14	AFEBRILE	NO	YES	NO
112	1269693	NO	YES	NO	NO	24	3	120/80	68	18	AFEBRILE	NO	YES	NO
113	1266056	NO	NO	NO	NO	18	2	120/80	64	14	AFEBRILE	NO	YES	NO
114	1241688	NO	NO	NO	NO	18	2	120/80	88	14	AFEBRILE	NO	YES	NO
115	1183298	NO	YES	NO	YES	20	2	-	-	-	-	-	NO	YES
116	1176165	NO	YES	NO	NO	18	2	120/80	90	16	AFEBRILE	NO	YES	NO
117	1243040	NO	NO	NO	NO	14	2	120/80	68	18	AFEBRILE	NO	YES	NO
118	1314166	NO	NO	NO	NO	10	2	120/80	64	18	AFEBRILE	NO	YES	NO
119	986869	NO	NO	NO	NO	16	2	120/80	78	14	AFEBRILE	NO	YES	NO
120	1163382	NO	NO	NO	NO	18	2	120/80	76	16	AFEBRILE	NO	YES	NO

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No. BFUHS/2K21p-TH/2-9 Date 6/12/22

The Principal,
DMC, Ludhiana.

Subject: Approval of Plan of Thesis.

This is to inform you that the Faculty of Medical Sciences in its meeting held on 29.10.2021 has approved the plan of thesis of **Jagmeet Singh**, a student of your college for **MD General Medicine** along with the names of Supervisor/Co-Supervisor as under:-

Topic Plan of Thesis
To study the clinical profile, prognostic indicators and outcome in patients of acute pyelonephritis.

Supervisor
Dr. Narender Pal Jain
Prof.,
Dept. of Medicine,
DMCH, Ludhiana.

Co-Supervisor

Dr. Simran Kaur
Asst. Prof.,
Dept. of Nephrology,
DMCH, Ludhiana.

Dr. Chandan Kakkar
Assoc. Prof.,
Dept. of Radio-diagnosis,
DMCH, Ludhiana.

The student has to submit the four copies of thesis (along with PDF format) , to the Controller of Examinations, BFUHS, Faridkot, at least six months before the commencement of theory examination, if he/she is otherwise eligible to take the examination. He /She must directed to attach a photocopy of this letter with the forwarding letter while submitting thesis to the University along with the letter of approval of University for change of supervisor/Co-Supervisor, change of topic,(if any).

Dr. S P Singh MS(Oph)
Controller of Examinations

Note :

53. *If any discrepancy found regarding topic of thesis or Supervisor/Co-Supervisor, inform undersigned within one month after issue of this letter.*
54. *The student may submit the thesis as per the schedule already conveyed i.e for May/June examination 30th Nov of the preceding the year of examination and for Nov/Dec examinations 31st May of the year of examination.*

TO STUDY THE CLINICAL PROFILE, PROGNOSTIC INDICATORS AND OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS

THESIS PROPOSAL

FOR APPROVAL OF SUBJECT OF THESIS TO BE SUBMITTED

IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

DOCTOR OF MEDICINE

IN

MEDICINE

OF THE

BABA FARID UNIVERSITY OF HEALTH SCIENCES

FARIDKOT

March 2021

DR JAGMEET SINGH

DEPARTMENT OF MEDICINE
DAYANAND MEDICAL COLLEGE AND HOSPITAL
LUDHIANA

ABSTRACT OF PLAN OF THESIS

Title	TO STUDY THE CLINICAL PROFILE, PROGNOSTIC INDICATORS AND OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS
For the degree of	GENERAL MEDICINE
Name of the candidate	DR. JAGMEET SINGH
Supervisor	Dr. Narender Pal Jain, Professor, Department of Medicine, DMCH Ludhiana
Co-supervisor	Dr. Simran Kaur, Assistant Professor, Department of Nephrology, DMCH Ludhiana Dr. Chandan Kakkar, Associate professor, Department of Radiology, DMCH Ludhiana
Institution	Dayanand Medical College & Hospital, Ludhiana
University	Baba Farid University of Health Sciences, Faridkot

Introduction: A prospective observational study will be conducted over 15 months in patients of acute pyelonephritis admitted in DMC Ludhiana.

Aim of Study: 1) To study the clinical profile, risk factors and prognostic indicators in patients of acute pyelonephritis.

2) To study the treatment modalities and outcome in patients of acute pyelonephritis.

Materials & methods: The study will be conducted over 15 months in patients of acute pyelonephritis admitted in DMC Ludhiana. All the patients will be assessed at presentation according to proforma. The diagnosis of acute pyelonephritis will be made on the basis of clinical features, laboratory and radiological findings. Management will be done according to case scenario with medical treatment and surgical intervention whenever indicated. Cases will be followed up till one month or discharge whichever is later. Final outcome will be considered in terms of recovery or mortality.

Clinical Significance: 1) This study will be helpful in making early diagnosis of acute pyelonephritis based on different clinical presentations and prognostic factors.

2) This study will be helpful in planning the treatment based on presentation of disease.

Keywords: Acute pyelonephritis, Clinical profile, Risk factors, Outcome

(Signature)	(Signature)	(Signature)	(Signature)	(Signature)
Candidate	Co-supervisor	Co-supervisor	Supervisor	Principal

CERTIFICATE OF FACILITIES AVAILABLE

This is to certify that the facilities for work on the subject of thesis titled **"TO STUDY THE CLINICAL PROFILE, PROGNOSTIC INDICATORS AND OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS"** exist in the Department of Medicine, DMC&H, Ludhiana and will be provided to be candidate. We will see that the data being included in the thesis are genuine and is collected by the candidate himself under our supervision and guidance.

Supervisor

DR NARENDER PAL JAIN
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Co-Supervisor

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Place: Ludhiana

Date: 19/3/2021

APPROVAL PROFORMA
BY RESEARCH & ETHICAL COMMITTEE
DAYANAND MEDICAL COLLEGE & HOSPITAL, LUDHIANA

Name of candidate	DR. JAGMEET SINGH
Department	GENERAL MEDICINE
Topic of Thesis	TO STUDY THE CLINICAL PROFILE, PROGNOSTIC INDICATORS AND OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS
Likely date of appearing in PG examination	MAY/JUNE 2023
Date of enrollment	26 JULY 2020
Name of Head of Department	DR. DINESH GUPTA
1) Supervisor **2) Co-Supervisor**	DR. NARENDER PAL JAIN DR. SIMRAN KAUR DR. CHANDAN KAKKAR
Signature of Members of Research Committee with Stamp	**Signature of Members of Ethics Committee with Stamp**
Dr. Harpreet Kaur (Professor & Head, Pathology)	Mr. R K Sharma (Legal Expert)
Dr. Jaspal Singh (Professor & Head, Surgery)	Dr. Ramit Mahajan (Associate Professor, Gastroenterology)
Dr. Dinesh Gupta (Professor & Head, Medicine)	Dr. Anu Sharma (Professor, Anatomy)
Dr. Sandeep Kaushal (Dean Academics & Professor & Head, Pharmacology)	Dr. Sandeep Kaushal (Dean Academics & Professor & Head, Pharmacology)
Dr. Gurpreet S Wander (Vice Principal)	Dr. Gurpreet S Wander (Vice Principal & Professor & Head, Cardiology)
	Dr. Gagandeep Singh (Secretary, Ethics Committee Professor & Head, Neurology)

Approved: Yes / No

Dr. Sandeep Puri
Chairperson
Research Committee

Approved: Yes / ~~No~~

Prof. Arvind Malhotra
Chairperson
Ethics Committee

BABA FARID UNIVERSITY OF HEALTH SCIENCES, FARIDKOT

PROFORMA FOR REGISTRATION OF SUBJECT FOR DISSERTATION

1	NAME OF THE CANDIDATE AND ADDRESS	DR. JAGMEET SINGH H. No. 305, Ekta Nagar, St. No. 1, Malout-152107
2	NAME OF THE INSTITUTE	Dayanand Medical College and Hospital
3	COURSE OF STUDY AND SUBJECT	DOCTOR OF MEDICINE IN GENERAL MEDICINE
4	DATE OF ADMISSION OF COURSE	26 JULY 2020
5	TITLE OF THE TOPIC	TO STUDY THE CLINICAL PROFILE, PROGNOSTIC INDICATORS AND OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS

6. BRIEF RESUME OF THE INTENDED WORK

6.1 NEED FOR THE STUDY

Pyelonephritis (PN) is severe inflammatory disease affecting the renal parenchyma, calyces and pelvis. It occurs in two forms, acute and chronic. It may be found with or without obstruction of urinary tract (obstructive and non obstructive pyelonephritis). The term itself is derived from the Greek words ‘pyelos’ meaning pus, ‘nephros’ meaning kidney and ‘itis’ meaning inflammation. Most admissions with urinary tract infection (UTI) have the pathophysiological possibility of developing pyelonephritis if treatment is delayed or inadequate.

ACUTE PYELONEPHRITIS (APN)

APN is defined as bacterial or fungal infection of the renal parenchyma and collecting system. The diagnosis of Acute PN is based on combination of clinical, laboratory and radiological findings. Clinical features may include increased urinary frequency, dysuria, flank pain and fever (>38.5°C) with rigors. Laboratory findings include pyuria, white cell casts, and a positive urine culture. The source of infection may be ascending from the lower urinary tract or less commonly hematogenous.[1] Blood borne infection is usually observed in intravenous drug abusers, immune compromised patients or patients with source of infection outside the kidney such as heart valves or teeth. The clinical spectrum ranges from mild illness to pyonephrosis and emphysematous PN with a fulminant course. Further, APN may be subdivided into uncomplicated and complicated. Complicated PN involves an abnormal urinary tract, obstruction, stones, diabetes, immune compromised state and pregnancy. The severity of PN cannot be predicted with clinical or laboratory parameters alone. Radiological investigations such as USG and CT are necessary to know the nature, extent and severity of disease and to plan intervention if required. USG and CT KUB will help in detecting calculi, emphysematous changes, obstruction or other inflammatory changes related to APN.

Obstruction is the most important factor for APN. It negates the flushing effect of urine, allows stasis of urine, providing bacteria a medium to multiply. Obstruction may be extrinsic or intrinsic. Extrinsic obstruction

occur with chronic constipation (particularly in children), prostatic mass or swelling (e.g. hypertrophy, infection, malignancy) and retroperitoneal mass. Intrinsic obstruction occurs with bladder outlet obstruction, cystocele, fungus ball, papillary necrosis, stricture and urinary stones.[2] Vesicoureteral reflux may contribute to APN, although the ascent of the bacteria up the ureter also occurs in its absence. Vesicoureteral reflux is caused by the presence of adhesive P fimbria and powerful endotoxins that appear to inhibit ureteral peristalsis, thereby creating a functional obstruction. In the clinical practice, acute pyelonephritis may present as renal or perirenal abscess, emphysematous pyelonephritis or papillary necrosis.

EMPHYSEMATOUS PYELONEPHRITIS (EPN)

Emphysematous pyelonephritis constitutes an acute severe necrotizing infection that results in the presence of gas in the renal parenchyma, collecting system or perinephric tissue. First reported in 1898 by Kelly and MacCallum and according to study the prevalence in Western countries remains low (1-2 cases per annum).[3] The term EPN was first published by Schultz and Klorfein in 1962. It is applied when gas forms in or around the kidney.[4]

Production of carbon dioxide due to the fermentation of glucose by the invading pathogen has been proposed as the source of emphysema. Schainuck et al proposed that fermentation products from tissue necrosis produced carbon dioxide. Analysis of gas shows four components- nitrogen(60%), hydrogen(15%), oxygen(8%) and carbon dioxide(5%).[5] EPN is almost exclusive to patients with diabetes mellitus (DM). Occasionally, non diabetics with obstruction of the corresponding renoureteral unit may present with EPN.[6]

Two decades ago, nephrectomy was standard treatment of choice as non surgical treatment carried a mortality of 60-80% patients. The advent of reliable imaging like Computed Tomography (CT) imaging and newer antibiotics in addition to multidisciplinary care especially the critical management of sepsis has enabled an overall decline in mortality rates to 20- 25% with non-surgical care now.

RENAL ABSCESS

Cortical and corticomedullary abscesses and perinephric abscesses are seen 1 to 10 per 10,000 hospital admissions. The usual presenting complaints are fever, chills, back or abdominal pain and costovertebral angle tenderness. No urinary symptoms occur if the abscess does not communicate with the collecting system as is seen with a cortical abscess. Abscesses are commoner with hematogenous infection. Bacteremia may be primary (cortical abscess) or secondary (corticomedullary or perinephric). 25 to 39% of abscesses are intra-parenchymal, 19 to 25% are both intraparenchymal and perinephric and 42 -51% are perinephric alone.[7]

The clinical presentation tends to be insidious and nonspecific. A renal cortical abscess (renal carbuncle) is usually caused by Staphylococcus aureus reaching via the bloodstream. Treatment with antibiotics is usually effective. Drainage may be required in slow responders.

On the contrary, a renal corticomedullary abscess is the result of an ascending UTI associated with an underlying abnormality, such as obstructive uropathy or VUR. It is caused by common uropathogenic species such as E.coli and other gram-negative bacilli. Such abscesses may extend deep and even perforate the renal capsule to form a perinephric abscess.

PAPILLARY NECROSIS

Most of the patients developing papillary necrosis have diabetes, almost always along with UTI. Sluggish blood flow in the vasa recta makes the renal papillae prone to ischemia and relatively modest ischemia results in papillary necrosis. Clinical features are typically those of PN. Passage of sloughed papillae into the ureter may cause renal colic, renal impairment or failure or obstruction with severe urosepsis. It is usually associated with pyuria and a positive urine culture. Causative uropathogens are those typical of complicated UTI.

Thus, this study will be helpful in making early diagnosis of acute pyelonephritis based on clinical features, laboratory and radiological findings and helpful in choosing the treatment modalities accordingly.

6.2 REVIEW OF LITERATURE

A study by Karthikeyan et al on 66 patients about clinical profile and outcome in patients of EPN managed conservatively and with minimally invasive treatment revealed that 84.85% patients were diabetic. Thrombocytopenia (TCP) was seen in 33% patients. 75.76% patients were classified as Huang and Tseng class 2. About 10% patients classified under class 3 with perinephric abscess require open drainage and bilateral EPN (class 4) was seen in 13.64% cases. Treatment with Piperacillin- tazobactam was effective in 65% patients. Double J stenting was done in 25.76% patients, percutaneous drainage was done in 7.58% patients and nephrectomy in 3% patients. This study suggested that EPN could be managed medically if timely intervention is done resulting in lower mortality rate.[8]

In a study by Aboumarzouk et al on 628 patients about the management plan of EPN suggested that females are more commonly affected. Diabetes is seen in 85% patients. Fever with rigors was seen in 74.7%, pyuria in 78.2% and pain in 70.4% patients. About 54.4% deaths were recorded in patients who initially presented in shock and 15% deaths were seen in patients presenting with obstructive uropathy. This study revealed that the overall mortality rate was nearly 18% and patients presented with shock were at a higher risk of mortality.[9]

A study conducted by Han et al about role of serum alkaline phosphate (ALP) and serum gamma glutamyl transferase (GGT) in acute pyelonephritis suggested that elevated levels of ALP and GGT are associated with complicated pyelonephritis and renal impairment. In this study they found that 30.6% patients had high serum GGT levels and 17.6% patients had elevated serum ALP levels. [10]

A study done by Yoo et al on 207 patients of acute pyelonephritis on sensitivity of radiological diagnostic modalities revealed that sensitivity of dimercaptosuccinic acid (DMSA) scan was similar to CT but better than doppler ultrasound (DUS). They suggested that CT is most practical modality for routine clinical use to diagnose APN.[11]

A study done by Talan et al on Escherichia coli (E.coli) infections in patients with pyelonephritis which are fluoroquinolone resistant and

extended spectrum beta lactamase producing revealed that E.coli resistance rates were more in patients with complicated PN as compared to uncomplicated cases. Percentage of patients harbouring drug resistance E. coli was 57.25% for ampicillin, 36.45% for trimethoprim/ sulfamethoxazole (TMP/SMX) combination, 9.95% for gentamycin, 14.2% for cefazolin, 7.7% for ceftriaxone, 10.2% for levofloxacin and 12.1% for ciprofloxacin.[12]

A study conducted by Kolla et al on eight patients of EPN about clinical profile and outcome when managed conservatively revealed that EPN should be suspected in every diabetic patient with urosepsis and early diagnosis and effective conservative treatment precludes the need of nephrectomy and decreases mortality.[13]

In a study by Buonaiuto V A et al on 1325 patients of complicated pyelonephritis about clinical, epidermiological features and prognosis suggested that 25.9% patients developed severe sepsis and 12.5% patients developed septic shock. In patients with structural or functional abnormalities of genitourinary tract 70.9% episodes of complicated pyelonephritis occured. E. coli was causative agent in 67% of patients, Klebsiella in 7.9%, Proteus in 6.6%, Enterobactor in 3.6%, Enterococcus faecalis in 3.4% and Candida in 1.1% patients. In this study, the crude mortality rate with complicated pyelonephritis is 6.5% and attributable mortality was 4.1%.[14]

Xu et al in their study showed the role of C reactive protein (CRP) and Procalcitonin (PCT) in urinary tract infection (UTI) diagnosis revealed that both PCT and CRP could be used to differentiate upper and lower UTI. PCT has a higher specificity and sensitivity in predicting PN than CRP and PCT values can be correlated with the degree of renal involvement in pyelonephritis.[15]

An observational study done on 1507 patients of acute complicated pyelonephritis about the factors associated with severe sepsis or septic shock revealed that 28.1% patients had severe sepsis or septic shock at the time of presentation. In the patients with severe sepsis/septic shock crude and attributable mortality at 30 days was 17.7% and 11.7% as compared to 1.7% and 0.6% in patients without septic shock

or severe sepsis respectively. The prevalence of septic shock or severe sepsis was higher in patients with acute complicated pyelonephritis.[16]

A retrospective study done by Elawdy et al about treatment strategies of EPN in relation to CT classification revealed that patients with CT classification class 1 and 2 without any obstruction respond very well to medical conservative treatment only. Nephrectomy was required in 33% cases in class 3A and 100% cases in class 3B. No case of class 4 was seen in the study. [17]

A study by Rudrabhatla et al to evaluate whether non flouroquinolone antibiotics should be stopped following clinical improvement at day 7 or should be continued till day 14 in patients with APN concluded that 7 day treatment with clinical improvement was effective to stop APN progression and there was no need to continue antibiotic course till day 14. It will significantly decrease antibiotic consumption, hospital stay and treatment related side effects. [18]

A study by Coelho et al regarding renal and perinephric abscess revealed that perinephric abscess was found in 50.8% patients followed by renal abscess in 24.6% and mixed abscess in 24.6%. Most common predisposing conditions were urolithiasis (28%) and DM (28%). Mixed abscess and perinephric abscess were successfully managed by interventional treatment. Renal abscesses could be managed only by medical treatment however intervention is reserved for large renal abscess or patients with clinical impairment.[19]

A retrospective study done by Venkatesh et al to compare the clinical and biochemical parameters with radiological findings among the patients diagnosed with PN revealed that majority of patients presented with triad of fever, flank pain and dysuria. Urine culture was positive in only few cases. Emphysematous changes were not diagnosed with USG although USG was able to diagnose large number of APN cases. Renal abscess and emphysematous changes were detected by CT and for diagnosis of PN, CT is better than USG.[1]

6.3 AIMS AND OBJECTIVES OF THE STUDY

1) To study the clinical profile, risk factors and prognostic indicators in patients of acute pyelonephritis.
2) To study the treatment modalities and outcome in patients of acute pyelonephritis.

7.0 MATERIALS AND METHODS

7.1 SOURCE OF DATA

The study will be conducted over 15 months from 1st March 2021 to 31st May 2022 including follow-up in patients of acute pyelonephritis admitted to DMC Ludhiana.

7.2 METHOD OF COLLECTION OF DATA

Inclusion Criterion:

- Age >18 years
- Patients with one or more clinical features of acute pyelonephritis i.e. Fever, Chills, Flank pain, Nausea and/or vomiting, Suprapubic or Costovertebral angle tenderness, Dysuria and Frequent or painful micturition.
- Radiological findings are suggestive of acute pyelonephritis.

Exclusion Criterion:

- Patients <18 years
- Pregnant patients
- Patients who are not willing to participate

METHODOLOGY

All the patients who will present with history of fever with chills, flank pain, nausea and/or vomiting and dysuria will be evaluated for pyelonephritis. The baseline characteristics of all patients will be recorded including their age, gender, chief complaints, duration of symptoms, any past medical or surgical history, comorbidities, vitals on presentation, hemodynamic status, degree of consciousness and need of Oxygen or ventilatory support. The diagnosis of acute pyelonephritis will be made on the basis of clinical features, laboratory and radiological findings.

The laboratory investigations will include renal function test (RFT), random blood sugar (RBS), glycosylated hemoglobin (HBA1C), total and differential leucocyte count, hemoglobin, platelet count, C-reactive protein (CRP), procalcitonin (PCT), liver function test (LFT), urine routine examination, urine culture and blood culture.

Radiological investigations will include ultrasonography (USG) whole abdomen and computed tomography of kidney and urinary bladder (CT KUB).

The patients of emphysematous pyelonephritis will be stratified based on Wan et al classification. Cases will be followed up till one month or discharge whichever is later. Management of pyelonephritis will be done according to case scenario with medical treatment and surgical intervention whenever indicated. Final outcome will be considered in terms of recovery or mortality and secondary outcome will include presence of sepsis, supplemental oxygen support, ICU requirement, mechanical ventilation, requirement of antibiotics i.e. type, duration and change of antibiotics (if needed), need of inotropes, surgical intervention (if done) and type of surgical intervention, need for hemodialysis and duration of hospital stay.

Duration of Study/ Number of Cases: 15 months from 1st March 2021 to 31st May 2022 including follow-up.

Outcome: Outcome of the patient will be studied in terms of final outcome i.e. mortality or recovery and secondary outcome.

Statistical Analysis: Data will be described in terms of range; mean ±standard deviation (± SD), median, frequencies (number of cases) and relative frequencies (percentages) as appropriate. All statistical calculations will be done using (Statistical Package for the Social Science) SPSS 21version (SPSS Inc., Chicago, IL, USA) statistical program for Microsoft Windows.

7.3 DOES THE STUDY REQUIRE ANY INVESTIGATIONS OR INTERVENTIONS TO BE CONDUCTED ON PATIENTS OR OTHER HUMANS OR ANIMALS? IF SO, PLEASE DESCRIBE BRIEFLY.

Yes, this study requires CT scan to be performed on patients with pyelonephritis. Surgical intervention as per requirement will be done on case to case basis.

7.4 HAS ETHICAL CLEARANCE BEEN OBTAINED FROM YOUR INSTITUTION IN CASE OF 7.3?

Yes

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PROFORMA

SERIAL NUMBER:

NAME: **Age/Gender:** **MRD NUMBER:**

Admission number:

Phone number:

CHIEF COMPLAINTS:

Fever/ chills/ flank pain/ nausea/ vomiting/ suprapubic or costovertebral angle tenderness/ dysuria/ frequent or painful micturition/ others

HISTORY OF PRESENT ILLNESS:

PAST HISTORY:

DM type 1 or 2 with glycaemic status (controlled/ uncontrolled)/ Hypertension/ CKD (baseline serum creatinine)/ CAD/ TB/ CLD/ Blood transfusion/ Thyroid disorder/ History of any surgery/ Indwelling urinary catheter/ Tumor/ Renal calculus disease/ Obstructive uropathy/ Others

Past urological intervention:

PERSONAL HISTORY: Vegetarian/ Non Vegetarian/ Alcoholic/ Smoker/ Oral or I/V drug abuse/ Others

TREATMENT HISTORY:

Acute pyelonephritis diagnosed: in the hospital/ outside

If diagnosed outside; outside investigations:

Signature of Candidate **Signature of Supervisor**

Antibiotics received outside:

History of ACE-I/ ARBs/ Aminoglycosides/ NSAIDS:

History of intake of Ayurvedic medication/ Homeopathic medication/ Self medication

EXAMINATION (AT PRESENTATION)

General Physical Examination:

BP:	Pulse:	Temperature:	Respiratory rate:	
Pallor:	Icterus:	Pedal edema:	LAP:	JVP:
Clubbing:	Cyanosis:	Oxygen saturation:		

Systemic Examination:

Per abdomen:

Cardiovascular system:

Central nervous system:

Respiratory system:

Ventilator support at presentation:

Fundus examination (if done):

Signature of Candidate **Signature of Supervisor**

Urine routine examination:

URINE CULTURE

Causative organism:

Organism sensitive to:

Organism resistant to:

BLOOD CULTURE

Causative organism:

Organism sensitive to:

Organism resistant to:

USG ABDOMEN:

CT KUB:

Signature of Candidate

Signature of Supervisor

INVESTIGATIONS

	At presentation		Peak Values		On outcome
Hemoglobin					
TLC					
DLC (N/L/M/E)					
RBC					
Platelet count					
PCV					
PTI					
INR					
RBS					
Ketones					
ABG					
Arterial pH					
pO2					
pCo2					
Lactate					
HCO3					
SO2					
S. bilirubin (T)					
S. bilirubin (D)					
SGOT					
SGPT					
ALP					
Total protein					

Signature of Candidate **Signature of Supervisor**

S. albumin					
Blood urea					
S. creatinine					
S. sodium					
S. potassium					
S. uric acid					
PCT					
CRP (Q)					
HbA1c					
S. calcium					
S. magnesium					
S. phosphorus					
Glasgow coma scale					
Others					

OUTCOME:

- **Supplemental oxygen support:**

  At presentation:
  Room air/ Oxygen mask/ nasal prong/ venturi/ high flow / NIV/ ventilator

  Fio2

  P: F Ratio

  At outcome:

- **ICU requirement:**

Signature of Candidate **Signature of Supervisor**

- **Mechanical ventilation:**

- **Need of inotropes:**
  Dopamine <5 or > 5 Or >15ug/kg/min
  Dobutamine
  Epinephrine/ nor epinephrine/ vasopressin
  others

  Mean arterial pressure >70 Or < 70 mm of hg

- **Antibiotics used:**
  Started at presentation:

  Change during hospital stay:

  Antibiotics on discharge:

  Antifungals (if any):

- **Need for Hemodialysis/ peritoneal dialysis/ CRRT/ Renal transplantation**

- **Procedures done:**
  Percutaneous nephrostomy (PCN): day:
  Percutaneous drainage (PCD): day:
  DJ Stenting: day:
  Nephrectomy: day:

- **Multi organ involvement:**

Signature of Candidate **Signature of Supervisor**

- **Duration of hospital stay:**

Condition at outcome:

Blood pressure: Respiratory rate: Pulse rate:

Temperature: Respiratory support:

Renal Function at outcome:

Blood urea: Serum creatinine: Urine output:

Hemodialysis dependence:

Final diagnosis:

FINAL OUTCOME:

- **Recovered**
- **Improved**
- **Death**

Signature of Candidate **Signature of Supervisor**

INFORMED PATIENT CONSENT

Date: _____

I.....D/o, W/o, S/o.....
.....am willing to participate in the study **"TO STUDY THE CLINICAL PROFILE, PROGNOSTIC INDICATORS AND OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS"** The procedure with its complications has been explained to me in local vernacular language. I have fully understood that no special tests and extra expenditure in any form, merely for the purpose of thesis is being carried out. I am free to opt out the study any time without assigning any reason.

.....
Signature of the Witness

Name:

.....
Signature of the patient

Signature of Candidate

Signature of Supervisor

मरीज अनुमति फार्म

तिथि _____

मैं _____ पत्नी/पुत्र/पुत्री _____

निवासी _____

इस शोधकार्य **"TO STUDY THE CLINICAL PROFILE, PROGNOSTIC INDICATORS AND OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS"** में भाग लेने के लिए सहमत हूँ। मैं इस शोधकार्य में भाग लेने के लिए अपनी स्वेच्छा से तैयार हूँ। मैं पुष्टि करता/करती हूँ की यह स्वीकृति देने के लिए मुझे कोई आर्थिक प्रलोभन नहीं दिया गया और न ही दबाव डाला गया है। मुझे इस शोधकार्य का उद्देश्य स्पष्ट कर दिया गया है और मुझे यह विश्वास है की यह विज्ञान और मानवता के लाभ के लिए है। मुझे इस शोधकार्य में होने वाले जोखिम के बारे में समझा दिया गया है और मेरी समझ में यह जोखिम बहुत मामुली है।

मैं इस शोधकार्य में भाग लेने के सम्बन्ध में किसी भी समय अपनी अस्वीकृति व्यक्त कर सकता/सकती हूँ और मेरे अस्वीकृति व्यक्त करने का मेरे इलाज पर कोई प्रभाव नहीं पड़ेगा।

_____ _____

गवाह के हस्ताक्षर रोगी के हस्ताक्षर/अंगूठे का निशान

नाम: नाम:

_____

अन्वेषक के हस्ताक्षर

_____

विद्यार्थी के हस्ताक्षर

ਮਰੀਜ਼ ਰਜ਼ਾਮੰਦੀ ਫਾਰਮ

ਮਿਤੀ_____

ਮੈ_____ਪਤਨੀ/ਪੁੱਤਰ/ਪੁੱਤਰੀ_____

ਵਾਸੀ _____

"TO STUDY THE CLINICAL PROFILE, PROGNOSTIC INDICATORS AND OUTCOME IN PATIENTS OF ACUTE PYELONEPHRITIS" ਤੇ ਚਲ ਰਹੀ ਖੋਜ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਲਈ ਰਜ਼ਾਮੰਦ ਹਾਂ। ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਲਈ ਮੈ ਆਪਣੀ ਮਰਜ਼ੀ ਨਾਲ ਤਿਆਰ ਹਾਂ। ਮੈ ਇਹ ਦਸਣਾ ਚਾਹੁੰਦਾ ਹਾਂ/ ਚਾਹੁੰਦੀ ਹਾਂ ਕੇ ਇਹ ਰਜ਼ਾਮੰਦੀ ਦੇਣ ਵਾਸਤੇ ਮੈਨੂ ਕਿਸੇ ਵੀ ਤਰਾਂ ਦਾ ਲੋਭ-ਲਾਲਚ ਨਹੀ ਦਿੱਤਾ ਗਿਆ ਅਤੇ ਨਾ ਹੀ ਕੋਈ ਦਬਾ ਪਾਇਆ ਗਿਆ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਦਾ ਮਨੋਰਥ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ ਅਤੇ ਮੈਨੂ ਇਹ ਭਰੋਸਾ ਦਵਾਇਆ ਗਿਆ ਹੈ ਕੇ ਇਹ ਖੋਜ ਵਿਗਿਆਨ ਅਤੇ ਮਾਨਵਤਾ ਦੀ ਭਲਾਈ ਲਈ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਵਿਚ ਹੋਣ ਵਾਲੇ ਖਤਰੇ ਬਾਰੇ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ ਅਤੇ ਮੈਨੂ ਇਹ ਯਕੀਨ ਹੈ ਕੇ ਇਹ ਖਤਰਾ ਬਹੁਤ ਮਾਮੂਲੀ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਦਾ ਢੰਗ – ਤਰੀਕਾ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ।

ਮੈ ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਬਾਰੇ ਆਪਣੀ ਰਜ਼ਾਮੰਦੀ ਕਿਸੇ ਵੀ ਸਮੇ ਵਾਪਸ ਲੈ ਸਕਦਾ ਹਾਂ/ ਸਕਦੀ ਹਾਂ ਅਤੇ ਮੇਰੀ ਰਜ਼ਾਮੰਦੀ ਵਾਪਸ ਲੈਣ ਦਾ ਮੇਰੇ ਇਲਾਜ ਤੇ ਕੋਈ ਅਸਰ ਨਹੀ ਹੋਵੇਗਾ।

_____
ਗਵਾਹ ਦੇ ਹਸਤਾਖਰ

ਮਿਤੀ_____

ਪਤਾ _____

_____
ਮਰੀਜ਼ ਦੇ ਹਸਤਾਖਰ

ਮਿਤੀ_____

ਪਤਾ _____

_____
ਨਿਰੀਖਕ ਦੇ ਹਸਤਾਖਰ

_____
ਸਿਖਿਆਰਥੀ ਦੇ ਹਸਤਾਖਰ